HOSPITAL Topics

GRAPHIC REPORTING ON TODAY'S HOSPITAL PRACTICES

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Page 72

Randolph Lee Clark, Jr., M.D. (see page 5)

The News Magazine for Hospitals

FEBRUARY | 1959

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References: 1. Pratt, J. H. and Jackman, R. J., Proc. Staff Meeting, Mayo Clinic 20:277, 1945. 2. "Injuries to bowel as result of an enema", Frech, H. C. and Lanier, L. R., Jr., Am. J. Obst. & Gyn. 74:146, 1957. 3. Bookmiller, R. N. and Bowen, G. L., "Textbook of Obst. and Obst. Nursing", 3rd Ed., Saunders, 1958.

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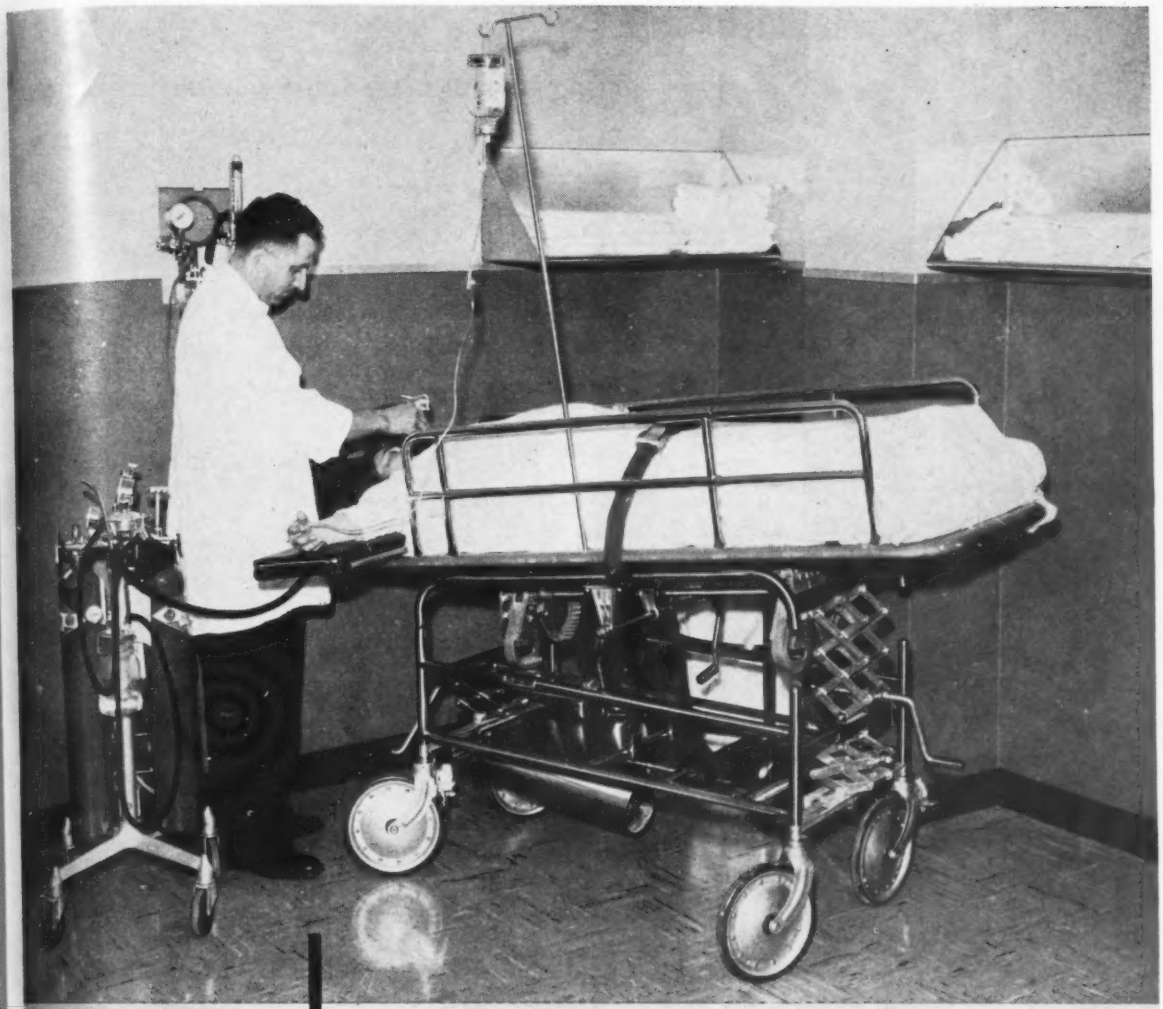

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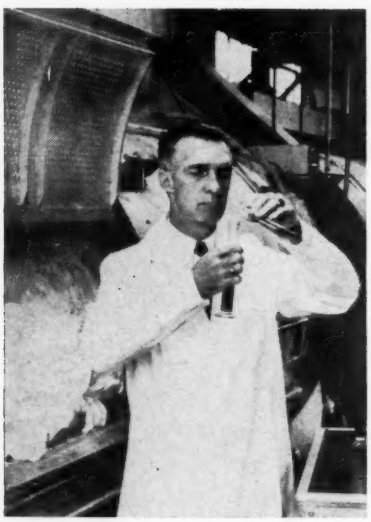

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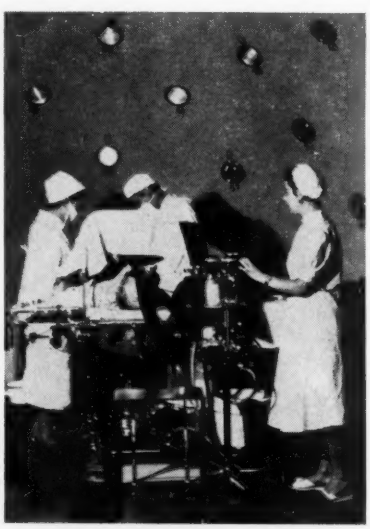

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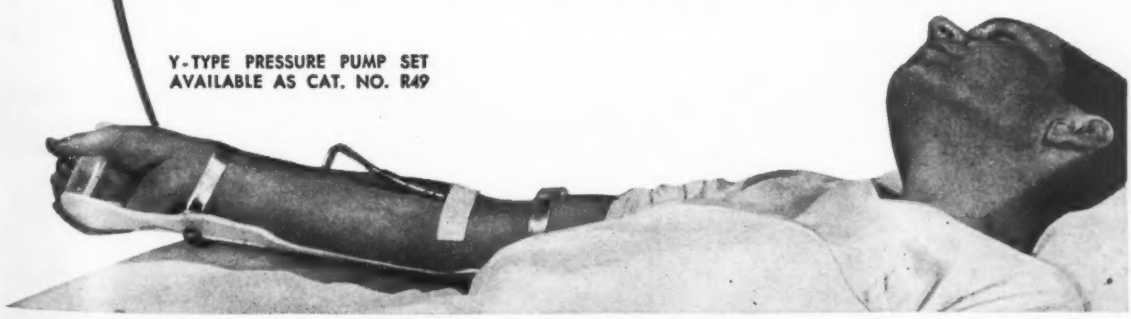

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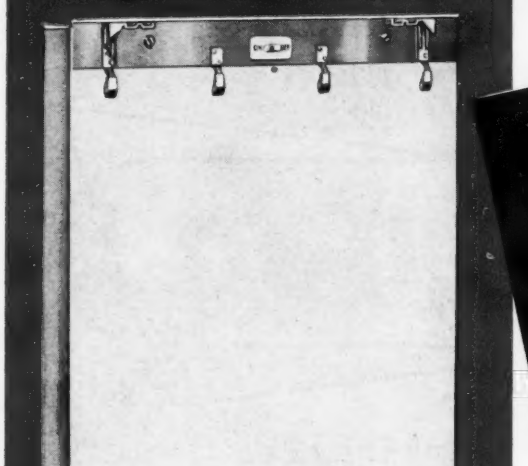

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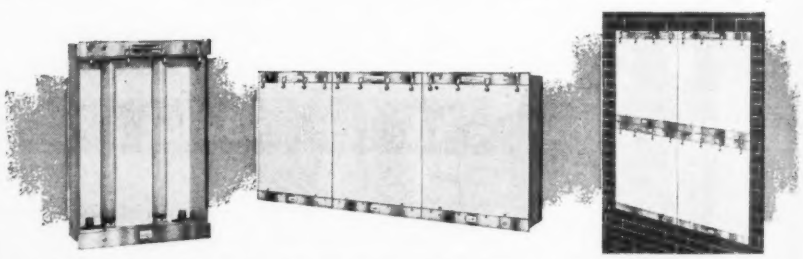

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HOSPITAL *Topics*

PERSONALITY OF THE MONTH

"NO Texan is ever satisfied until he returns to Texas," according to Randolph Lee Clark, Jr., M.D. When he returned to Houston as administrator and surgeon-in-chief, M. D. Anderson Hospital for Cancer Research, he returned not only as a native son but also to put into practice his belief that team work is the important element in accomplishing a project.

He has since established the Anderson Hospital as a member of the state and nationwide cancer teams, and has set up an administrator-physician relationship which is based on partnership. The administrator's role, he feels, is to provide ideal conditions in which the physician can do his finest work.

Putting teamwork into practice at home as well as on the job, he and his wife, Bertha Davis, M.D., have shared their professional and private lives. Together they went through medical school, residency training in Paris, and study at the Mayo clinic.

In 1940, they moved to Jackson, Miss., to become members of a five-physician team known as Shands Clinic. Service for the Army Air Force intervened in 1942, and after four years Dr. Clark was discharged a lieutenant colonel. He has served as national consultant in surgery to the surgeon general of the U.S. Air Force since 1948.

Accepting the position at Anderson Hospital in 1946, he helped raise $8,000,000 needed to construct struct the new building which is connected with the University of Texas.

As head of the Medical Arts Publishing Foundation, which he started in partnership with R.W. Cumley, he has published the *Cancer, Psychiatric,* and *Heart Bulletins.* Both men were also named editors for the first *Year Book of Cancer* in 1956 and are now editing the third of that series.

While in college, Dr. Clark was southern and national amateur wrestling champion. He has maintained his interest in sports by being a skin diving enthusiast.

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HOSPITAL Topics
The News Magazine for the Hospital Staff

FEBRUARY, 1959
VOL. 37, NO. 2

Scanning the News

"Beeping" Box Monitors Surgical Patients' Hearts

A tiny device, which "beeps" while the heart is functioning normally, can be set on a surgical patient's arm. Operating room personnel can thus be alerted the moment danger threatens, yet be free for other duties as long as the patient's response remains routine.

The new monitor, weighing only six ounces, records the heart's electrical activity—the "most accurate index" of the heart's function, according to William F. Veling, M.D., Detroit.

He pointed out that the self-contained unit is powered by batteries. It needs no long, complicated electrical wiring, and its audible "beep" overcomes the disadvantage of older machines which need constant visual attention.

Another possible use for the device is monitoring hearts of critically ill patients, especially those with heart disease. Because it is small, relatively inexpensive, and easily stored, a hospital could keep a number on hand for use in patients' rooms, Dr. Veling added.

Electroenhancement Screen Reduces Exposure Dangers

Danger to patients from overexposure to x-rays may be reduced, and brighter x-ray images made possible, by an electroenhancement screen developed by Professor Georges Destriau, Westinghouse consultant and member of the University of Paris faculty.

By replacing the screen of an ordinary fluoroscope with the new screen, which sandwiches phosphor between two glass plates treated to conduct electricity, brighter images can be achieved. More light can be obtained when an electric field is applied than when x-rays alone are employed.

Above: The triple-buckle belt worn by the polio patient shown is a respirator, known as the multilung-pneumobelt. It enables patients, formerly confined to lying in rocking beds, to breathe in upright positions. The ability to sit up has enabled polio-stricken housewives to take care of their families from wheel chairs and has helped men to qualify for desk jobs.

The "belt-breather" is alternately inflated with air and then deflated; it is the changing air pressure which forces the patient to breathe.

It was developed through cooperation between March of Dimes-supported respiratory and rehabilitation centers, and Conitech Limited, equipment manufacturers.

Also, with the new discovery, the patient can be removed and the image made to reappear. Because of this retentive quality of the new screen, the x-ray equipment can be turned on with greater intensity than when the patient is present, to give a brighter image than the original.

Thus, an image of adequate brightness can be obtained with the use of less intense radiation, lessening the danger of overexposure. Conversely, if the usual level of radiation is used, a brighter image will result.

Previously, the response of fluoroscopic screens to x-rays had been impaired rather than improved by simultaneous application of an electric field. The new electroenhancement screen is therefore a completely new development.

Rubber Gloves, Scrubbing, Detergent Harm Nails

Dishpan hands may be less attractive but medically safer than hands protected with rubber gloves. Three cases of nail bed hemorrhage in men who washed pans in a hospital kitchen wearing rubber gloves and using a detergent were reported by Peter I. Long, Jr., M.D., Dayton, O.

Dr. Long said the primary causes of the condition appeared to be injury from scrubbing and a change in the acidity of detergent solution trapped in the gloves, perhaps because perspiration had become mixed with the detergent.

Prompt recognition of the lesions and elimination of the offending agent is necessary, he said, to prevent extensive nail bed damage.

Only men who wore rubber gloves developed the condition, although they showed no sensitivity to rubber.

"Germ-carrying" House Fly Found Unfairly Maligned

The house fly, bred in flight, has the peculiar ability to shed the disease-causing germs it lived with at birth, according to Bernard Greenberg, Ph.D., University of Illinois zoologist.

(*Continued on page 68*)

THE TRANQUILIZER UNIQUELY SUITED FOR HOSPITALS

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Suggested dosage: one (100 mg.) tablet t.i.d.

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References: 1. Menger, H. C.: New York J. Med. *58*:1684 (May 15) 1958. 2. Robinson, H. M., Jr., et al.: J.A.M.A. *161*:604 (June 16) 1956.

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News Briefs at Press Time

CONGRESS TO CALL THE SHOTS ON HEALTH LEGISLATION

It is clear that Congress, not the Administration, will be taking the initiative on health measures this year. In his State of the Union message, the President spoke vaguely of greater spending—next year—for health programs. But in the meantime, House leaders were introducing and pledging aggressive support of a bill conferring liberal health insurance benefits on Federal employees.

Two high-ranking Democrats and one Republican on Post Office and Civil Service Committee are co-sponsoring a bill to provide basic and major medical coverage for government workers and families, with the U.S. bearing more than two-thirds of the cost. Bill was drawn up by the Government Employees Council, an AFL-CIO affiliate.

JAMES HOFFA PLANS DRIVE TO ORGANIZE HOSPITALS IN 1959

It can now be told that at a secret meeting of James Hoffa and other top Teamsters' brass in Miami, Fla., a few weeks ago, a timetable was established for certain specific drives, including organization of hospital employees within the next nine to 12 months.

HOLDOVER BILLS REINTRODUCED BY MEMBERS OF THE HOUSE

On the first day of the new session, some 2,000 bills and resolutions were introduced by members of the House, most of them up-dated measures that failed to pass last year. Among them: income tax inducements for gifts to non-profit voluntary health insurance plans, nursing scholarships, veterans' medical care benefits, subsidies for construction of treatment centers in rural areas.

$15 MILLION IN RESEARCH AWARDS ALLOCATED BY NIH

National Institutes of Health reports a total of $15,168,650 in research grants and fellowship awards for December, 1958. New projects and grants accounted for $4,373,079, remainder being approved for continuation assistance.

Recipients of 299 new research awards are 157 institutions in 36 states and D.C. Fourteen U.S. citizens will get the new fellowships for study in 11 institutions in eight states and one foreign country.

SURVEY LABELS CARAFE WATER A POTENTIAL INFECTION SOURCE

Water in bedside carafes of 24 Boston hospitals not only tasted bad–it was a potential infection source, according to a survey by Carl W. Walter, M.D., A. Daniel Rubinstein, M.D., Ruth B. Kundsin, and Mary A. Shilkret, published in the December 18, 1958 issue of the New England Journal of Medicine.

The bedside water supply in the hospitals surveyed was found to contain high densities of coliform organisms and staphylococci. Patients' complaints led to the investigation.

Among survey findings:

–Most carafes used had narrow necks which could not be adequately cleaned without a brush–and no brushes were found.

–Carafes in 14 hospitals were made of materials that would not stand sterilization by heat.

–Carafes in all hospitals were supposedly washed daily, but no hospital specified disinfection as a part of cleaning. Four hospitals autoclaved steel carafes on discharge of patients.

–In one-third of the hospitals the carafes were cleaned in the utility room–many times in the same area with basins, bedpans, and urinals.

–Cross-contamination by faulty identification of carafes or by mixing of the lids when several were iced simultaneously was common.

–Ice was often prepared without adequate safeguards, then put into carafes by employees' unclean hands.

Much time is spent in measuring and charting fluid balance, the authors point out. They recommend that more attention be paid to the quality as well as the quantity of fluids administered.

Gordon M. Marshall

Calendar of Meetings

FEBRUARY

4- 5 AHA Midyear Conference of Presidents and Secretaries, Palmer House, Chicago

4- 7 American College of Radiology, Chicago

5- 7 American College of Hospital Administrators, Annual Congress, Hotel Sherman, Chicago

9-12 Association of Operating Room Nurses, Shamrock-Hilton Hotel, Houston, Tex.

9-13 AHA Institute, Hospital Purchasing, Statler Hotel, New York City

19-21 Central Surgical Association, Montreal, Que., Canada

23-27 AHA Institute, Dietary Department Administration, YWCA, New Orleans

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MARCH

2- 4 AHA Institute, Hospital Safety and Insurance, King Edward Hotel, Toronto, Ont., Canada

4- 6 Quebec Hospital Association, Windsor Hotel, Montreal, Canada

5- 6 Georgia Hospital Association, Bon Air Hotel, Augusta

5- 7 Louisiana Hospital Association, Bellemont Motor Hotel, Baton Rouge

9-11 Advanced AHA Institute for Directors of Hospital Volunteers, AHA headquarters, Chicago

9-12 Nurses-Surgeons Joint Meeting, American College of Surgeons, St. Louis

10-12 American Laryngological, Rhinological, and Otological Society, The Homestead, Hot Springs, Va.

12 Wisconsin Hospital Association, Hotel Schroeder, Milwaukee

17-19 National Health Council, Palmer House, Chicago

23-25 New England Hospital Assembly, Hotel Statler, Boston

30-April 1 American Orthopsychiatric Association, Sheraton Palace Hotel, San Francisco

30-April 1 Southwestern Surgical Congress, New Brown Palace Hotel, Denver

31-April 2 Kentucky Hospital Association, Phoenix Hotel, Lexington

APRIL

1- 3 Mid-West Hospital Association, Municipal Auditorium, Kansas City, Mo.

5- 9 American College of Obstetricians and Gynecologists, Traymore Hotel, Atlantic City, N.J.

6- 8 American Radium Society, The Homestead, Hot Springs, Va.

6- 9 American Academy of General Practice, San Francisco

6- 9 Ohio Hospital Association, Veterans Administration Auditorium, Columbus

8-10 Southeastern Hospital Conference, Atlanta-Biltmore Hotel, Atlanta, Ga.

10-11 New Mexico Hospital Association, Hilton Hotel, Albuquerque

13-17 AHA Institute, Hospital Engineering, Lord Baltimore Hotel, Baltimore, Md.

(Continued on page 12)

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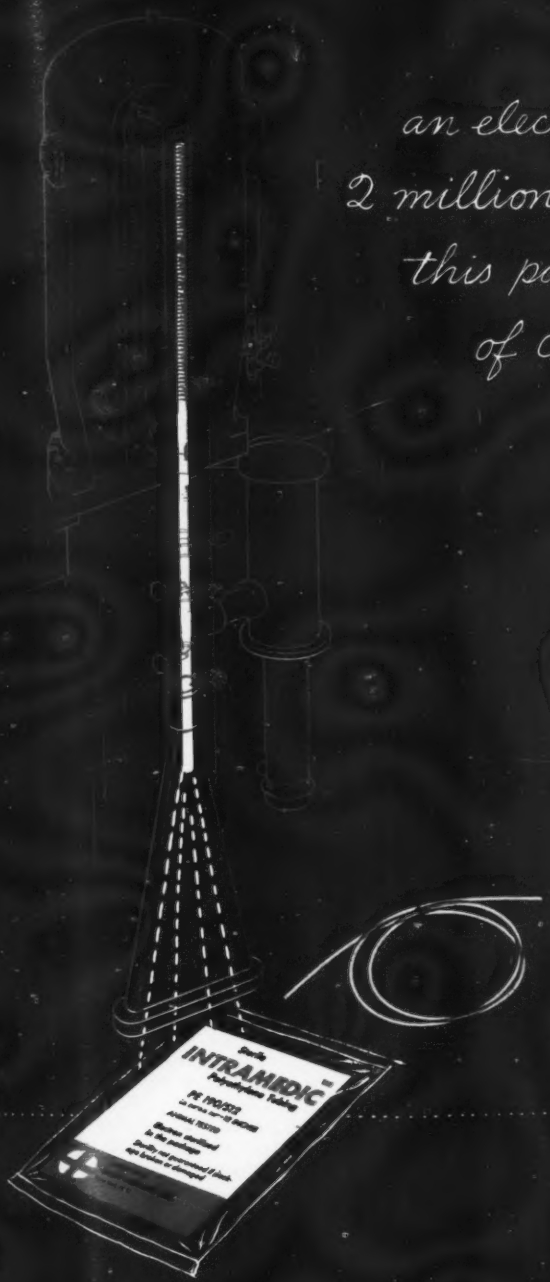

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PE-160/S12 & PE-160/S36	18	16 thin wall
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PE-200/S12 & PE-200/S36	17	13
PE-205/S12 & PE-205/S36	16	14 thin wall
PE-240/S12 & PE-240/S36	15	13
		12
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CALENDAR OF MEETINGS

(Continued from page 10)

APRIL

15-17 American Surgical Association, Fairmont Hotel, San Francisco

16-17 Carolinas-Virginias Hospital Conference, Hotel Roanoke, Roanoke, Va.

17-19 Eastern Surgical Trade Exposition, New York Trade Show Building, New York City

20-23 AHA Institute, Evening and Night Nursing Administration, Lafayette Hotel, Buffalo, N.Y.

20-23 Congress of International Anesthesia Research Society, Miami Beach, Fla.

20-24 American College of Physicians, Conrad Hilton Hotel, Chicago

23-25 American Association of Pathologists and Bacteriologists, Somerset Hotel, Boston

23-25 National Association of Institutional Laundry Managers, Mayo Hotel, Tulsa, Okla.

27-29 Aero Medical Association, Hotel Statler, Los Angeles

27-29 Tri-State Hospital Assembly, Palmer House, Chicago

27-May 1 National Association for Practical Nurse Education, Netherland Hilton Hotel, Cincinnati, O.

28-May 1 AHA Institute, Occupational Therapists, Roosevelt Hotel, Waco, Tex.

30-May 3 Student American Medical Association, Morrison Hotel, Chicago

MAY

3- 4 American Society for Clinical Investigation, Haddon Hall, Atlantic City, N.J.

4- 7 Association of Western Hospitals, Hotel Utah, Salt Lake City

6- 8 American Pediatric Society, The Inn, Buck Hill Falls, Pa.

7- 8 Tennessee Hospital Association, Andrew Jackson Hotel, Nashville

10-15 Society of American Bacteriologists, Sheraton-Jefferson Hotel, St. Louis

11-13 Canadian Hospital Association, Queen Elizabeth Hotel, Montreal, Que., Canada

11-14 Texas Hospital Association, Shamrock-Hilton Hotel, Houston

11-15 National League for Nursing, Philadelphia

13-15 Upper Midwest Hospital Conference, St. Paul Auditorium, St. Paul, Minn.

14 Massachusetts Hospital Association, Hotel Statler, Boston

20 New Jersey Hospital Association, Convention Hall, Atlantic City, N.J.

20-22 Hospital Association of Pennsylvania, Convention Hall, Atlantic City, N.J.

20-22 Hospital Association of New York State, Convention Hall, Atlantic City, N.J.

20-22 Middle Atlantic Hospital Assembly, Convention Hall, Atlantic City, N.J.

24-29 National Tuberculosis Association, Palmer House, Chicago

25-27 American Gynecological Society, The Homestead, Hot Springs, Va.

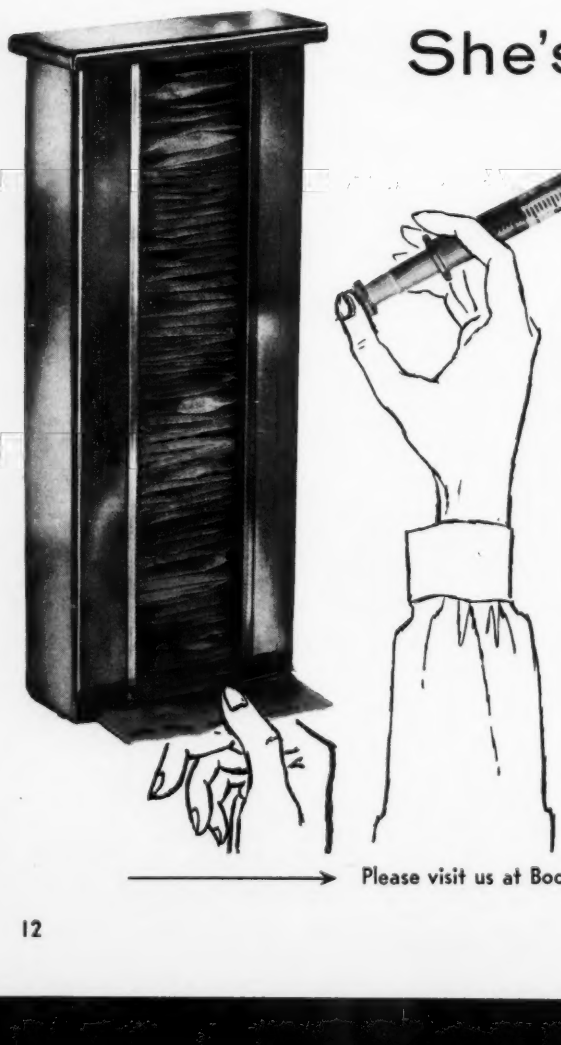
26-29 American College of Cardiology, Benjamin Franklin Hotel, Philadelphia

28-30 American Ophthalmological Society, The Homestead, Hot Springs, Va.

JUNE

1- 4 American Dermatological Association, Claridge Hotel, Atlantic City, N.J.

(Continued on page 15)



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CALENDAR OF MEETINGS

(Continued from page 12)

JUNE

1- 4 Catholic Hospital Association, Kiel Auditorium, St. Louis

1- 5 International Hospital Congress, Edinburgh, Scotland

4- 5 American Geriatrics Society, Hotel Traymore, Atlantic City, N.J.

4- 7 American Medical Women's Association, Sheraton Ritz Carlton Hotel, Atlantic City, N.J.

6- 7 American Diabetes Association, Chalfonte-Haddon Hall, Atlantic City, N.J.

15-17 American Neurological Association, Claridge Hotel, Atlantic City, N.J.

15-19 Medical Library Association, King Edward-Sheraton Hotel, Toronto, Ont., Canada

16-18 American Orthopedic Association, Lake Placid Club, Lake Placid, N.J.

JULY

16-24 Canadian Medical Association, Edinburgh, Scotland

19-25 International Congress of Pediatrics, Montreal, Que., Canada

23-29 International Congress of Radiology, Munich, Germany

AUGUST

5-15 Second Annual Health Exposition, The Coliseum, New York City

24-27 American Hospital Association, The Coliseum, New York City

30-September 4 Second World Conference on Medical Education, Palmer House, Chicago

SEPTEMBER

6-12 World Congress for Physical Therapy, Paris, France

20-24 American Roentgen Ray Society, Cincinnati, O.

21-25 Annual Instrument-Automation Conference and Exhibit, International Amphitheatre, Chicago

OCTOBER

21-22 Washington State Hospital Association, Chinook Hotel, Yakima

Hospital Trains Employees In Fire Fighting Technics

Carrying fire protection in the hospital a step beyond the usual prevention and evacuation procedures, Jewish Chronic Disease Hospital, Brooklyn, N.Y., has instituted an employee fire-fighting training program.

The program includes actual demonstrations with fire and fire fighting apparatus, including asbestos blankets, fire extinguishers, carbon dioxide, soda, and acid.

Each month, 30 different staff members participate in both the demonstration and instruction. New employees take the course within one month after joining the staff. More than 200 members have received this training.

Medicine Man's Herb Tea May Aid Mental Illness

An ancient Indian medicine man's herb tea may prove a new weapon against mental illness.

Josie Billy, 74, medicine man, Big Cypress Reservation, Florida, says Indians have used it for treating mental illness for years.

He has sold sample gallons to the Upjohn Pharmaceutical House for tests.

Richards

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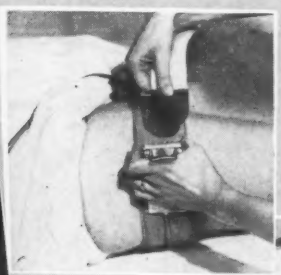

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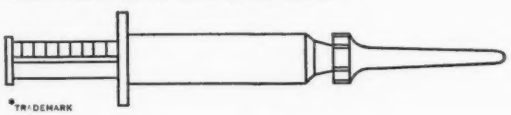

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American Academy of Dermatology and Syphilology--

Chicago, December 6-11

• Over 1,000 specialists attended the 17th annual convention of the American Academy of Dermatologists and Syphilologists, which also marked the 20th birthday of the academy itself.

The agenda included, in addition to papers, lectures, and symposiums, courses in histopathology, mycology, x-ray and radium therapy, cutaneous allergy, cutaneous surgery, bacteriology and virology of the skin, application of research methods, anatomy and embryology of the skin, and special problems in dermatohistopathology.

G. A. Grant Peterkin, M.D., physician-in-charge of the skin department at the Royal Infirmary, Edinburgh, Scotland, who gave the James R. Webster Memorial Lecture in honor of the academy's late president, suggested a worldwide registry for the incidence of skin diseases.

In some countries, certain skin diseases are prevalent, and in others are rarely seen, he explained. When a skin disease breaks out in a country where it is considered rare, its treatment may involve lengthy experiments until the cure is discovered. Meanwhile, a cure may have been determined many years ago in an area where the disease is well known. A central registry would expedite treatment.

According to a report on *The Health Problems of This Atomic Age* by Paul M. Crossland, M.D., professor of medicine, Stanford University School of Medicine, San Francisco, Calif., "The incidence of radiation damage has lagged far behind the increased use of atomic energy. Scientists see no reason why it cannot be cut to practically zero if all safeguards are explicitly followed."

Today more than 1,700 industrial organizations hold AEC licenses for the use of radioisotopes. Approximately 2,000 medical institutions and physicians are also licensed, and use them in treating more than 1,000,000 patients per year.

Dr. Crossland favored registration and even licensing of all sources of ionizing radiation, and enforcement of safety regulations. "We have building codes, why not an installation code for x-ray machines?" he asked. "We have narcotic licenses, why not a license to operate a fluoroscope?"

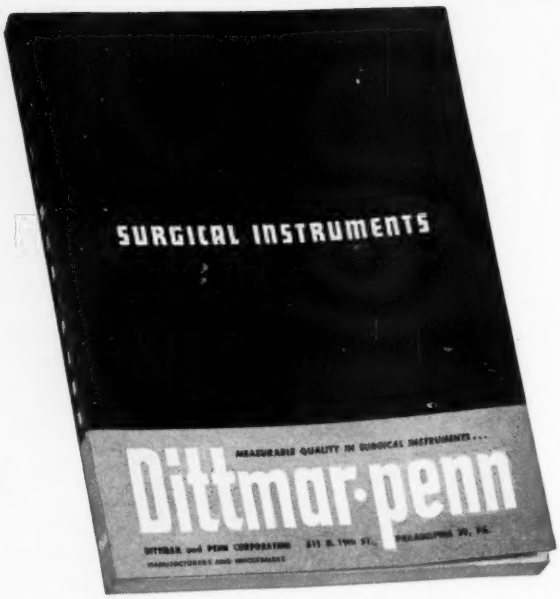
Relief of summer frustration due to the individual's inability to acquire a suntan was offered by S. W. Becker, Jr., M.D., assistant professor of dermatology, University of Illinois. Suntan pills, known as psoralens, have the ability to protect against sunburn and produce suntans which last longer than the normal variety, he said.

"When these chemicals are taken by mouth," Dr. Becker explained, "the person becomes more sensitive to sunlight for about eight hours. After two weeks of daily exposure, the horny layer of skin produced by the pills provides a filter which protects against burning for about six months."

The dermatologist in a disaster of great magnitude, such as an atomic attack, will be required to do field surgery in treating wounds and other injuries, according to Capt. John W. Albrittain, M.D., chief of dermatology service, National Naval Medi-

(Continued on next page)

Above, Everett R. Seale, M.D., professor of dermatology and head of the department at Baylor University, Houston, Texas, retiring president of the academy, congratulates new president Anthony C. Cipollaro, professor and director of the department of dermatology and syphilology, New York Polyclinic Medical School and Hospital, New York City. Below, Dr. Cipollaro welcomes the academy's new vice-president, Norman M. Wrong, M.D., associate professor of medicine in charge of dermatology, University of Toronto, Ontario, Canada.



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cal Center, Bethesda, Md.

"It is vitally necessary," said the captain, "that training programs be instituted to prepare all civilian medical specialists for defense in the event of an attack." He outlined a general plan for handling the injured, beginning with self-aid, and ending with the remote hospital.

The care of burns in a disaster was discussed by Capt. Joseph R. Connelly, M.D., head of the plastic surgical service at the National Medical Center.

"In a disaster with mass handling of burn disasters, those requiring minimum care must be separated from those requiring expert care," he said. "Extreme burns must likewise be segregated and treated last. Proper sorting is essential, and must be done by someone with experience."

Reporting on *Photo Allergic Reactions to Drugs*, Stephan Epstein, M.D., clinical associate professor of dermatology, University of Minnesota, said that while it is common knowledge that some persons who take drugs become allergic to them and break out with various forms of skin rashes, it is not so generally known that certain drug-consuming individuals break out only when they are exposed to sunlight.

During World War II, photo dermatitis disabled many soldiers who had been treated with sulfanilamide for infected wounds, especially in North Africa, Dr. Epstein explained. In recent years, a certain tranquilizer and one of the antihistamines have been found to cause skin eruptions in persons exposed to light. "Avoidance of the drug does not always lead to a rapid cure," he noted. "At the Rothschild hospital in Paris, these patients are hospitalized for days or weeks in completely dark rooms. Even persistent cases of photo dermatitis have shown rapid improvement under this treatment."

While surgical planing of the skin is effective in improving acne pits and pock marks, and restores the youthful elasticity and freshness of the skin, the medical world is more concerned with its use in preventing skin cancer, according to Samuel Ayres III, M.D., assistant clinical professor of dermatology at the University of Southern California's School of Medicine in Los Angeles.

"It is well known," said Dr. Ayres, "that most skin cancer occurs on the face, neck, ears, lips, and backs of the hands of persons who are fair skinned and blue-eyed, and who have been exposed to a great deal of sunlight over a period of years. This weather-beaten sailors' or farmers' skin develops scaly patches and horny thickenings called keratoses, which are precancerous. "By abrading away (planing) the precancerous skin with a motor-driven rotary burr covered with tiny diamond chips, while the skin is frozen, not only are the existing keratoses removed, but so also is the entire sunlight-damaged area of skin. Patients observed for as long as four years after planing of the face are much less prone to develop these precancerous keratoses and skin cancers in the treated areas, although the protection is not complete."

American Association For Advancement of Science--

Washington, D. C., December 26-31

• Functioning to promote exchange of ideas among the science-interested in different parts of the United States, AAAS has its meetings spread across a wide spectrum of both geography and subject matter. This year's site, Washington, D.C., has been chosen but seven times in its history.

At the meetings, societies specific to the disciplines which comprise their membership hold individual sessions to review the year's achievements. There are additional technical sessions of invited and contributed papers.

Current projects are reviewed; this year, a science teaching improvement program, a public information service, and, with the support of the National Science Foundation, travelling high school libraries.

General symposia and conferences are also held, routinely. Among those for 1958 were discussions of the organization of scientific activities in the United States and interested foreign countries, the social aspects of science, and the teaching of science and mathematics.

Dr. Albert Sjoerdsma, head, experimental therapeutics section, Laboratory of General Medicine and Experimental Therapeutics, National Heart Institute, Bethesda, Md., received the Theobald Smith Award in Medical Science for his outstanding contributions in the understanding of secreting tumors.

Westinghouse Electric Corp. was the recipient of the 1958 Industrial Science Award of the American Association for the Advancement of Science, for developing Opcon, a machine which duplicates the informed behavior of a human being in controlling complicated industrial manufacturing processes.

Based upon a new concept in control systems, it replaces the routine functions performed by a conventional system with the human-like process of reaching a logical conclusion through experiment. Opcon discovers for itself the difference between right and wrong decisions, and makes impartial judgement based upon its own experience. It performs the job of a human operator more precisely and efficiently, without the error introduced by boredom, impatience or fatigue.

HOSPITAL TOPICS has selected the following material for the interest of its readers.

Urge Periodic Examination

Studies Indicate Daily Doses of Pival And Warfarin May Cause Anemia

Recent studies on rats have indicated that patients receiving daily doses of the anticoagulants Warfarin and Pival should have periodic blood cell examinations for detection of anemia.

Warfarin, a hydroxycoumarin, and Pival, an indandione, possess properties which make them useful in certain types of surgery and various types of heart disease, and effective as rodenticides.

To determine whether effects on blood cells could be elicited, these compounds were administered daily at therapeutic levels for long periods of time. It was found that severe anemia may develop in rats after Warfarin treatment, without any signs of internal or external hemorrhage. Red blood cells resembled those found in pernicious anemia in the severe cases, dropping to one-tenth the normal level in 36 to 72 hours after the first signs. Hemoglobin was almost absent. Animals developing uncontrollable hemorrhage became anemic, but anemia developed more slowly.

When Pival was given, anemia appeared only when hemorrhage was present. Pival specifically reduced the number of granulocytes, while the number of the various types of white blood cells in the Warfarin-treated animals remained normal. Total white cells were within normal limits after treatment with either compound.—*Frederick Sperling, Ph.D.*, director, Sperling Laboratories, Arlington, Va.

Cerebral Anomalies Possible

X-ray Treatment Could Prove Dangerous for Pregnant Women

Recent experimentation on mice has indicated that no woman should receive pelvic x-irradiation for diagnosis or therapy at any time when she might suspect herself pregnant.

Studies at low levels of exposure, 25 r and 50 r x-rays, to mouse embryos from 0.5 to 9.5 days after conception, show this to be the most sensitive period in pre-natal development. All embryos exposed in their earlier stages, even to 25 r, are probably permanently damaged. There is a high incidence of resorption within the uteri, 30 per cent at 25 r, by the fertilized but uncleaved egg at 0.5 day post-conception. To embryos thus exposed a severe cerebral anomaly known as cerebral hernia, or exencephaly, occurs with some frequency.

Embryos exposed to 50 r between 2.5 and 8.0 days after conception may develop exencephalies, the maximum incidence being at 5.5 days exposure time. When embryos were exposed to 200 r between 0.5 and 8.5 days after conception, either dead embryos or cerebral hernias were found in almost every litter. There was a maximum of killing and uterine resorption of 64 percent when the exposure was before the first cleavage, at 0.5 day, but the maxi-

(*Continued on next page*)

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mum incidence of exencephalics, 88 percent, occurred at 8.5 days. All surviving litter mates were stunted.

These, or similar cerebral congenital anomalies, have been produced by other means; but only x-rays have produced this when the insult was upon the fertilized but uncleaved egg. Such individuals do not survive, but the litter mates which appear normal do survive and may be functionally abnormal. Sociologically, the surviving members may have more serious and lasting effects than those caused to die in utero or at birth.

Extrapolations to the human are dangerous, but can be suggestive.—*Robert Rugh, Ph.D.*, and *Erica Grupp*, Radiological Research Laboratory, Columbia University.

Proper Attitudes Important

More Science Study Needed to Keep U.S. in Global Race

"Science teaching" is the crucial element in our global contest with Russia. Although our colleges must recognize the problem and put more emphasis on scientific and humanistic social subjects, the real emergency is at the elementary and high school levels.

Proper attitudes must be developed early in the educational progress to guide students toward an appreciation of science. Perhaps this may even include changing their present impressions and then motivating them toward a science career. Russia has a two-to-one margin over us in the number of persons who are graduated annually in social studies and mathematics.

Increased numbers of courses in science and mathematics must be taught to a higher percentage of high school students. Three years of science study, rather than the present one year, should be required for graduation.

If more students are to be encouraged to ground themselves in mathematics and science, the school's climate must change. Science teachers must share with others who have close contact with the secondary system the making of recommendations and the giving of counsel. Otherwise, few changes in curriculum will be made.

Opinion polls of high school students have shown that they have mixed, though favorable, images of science and scientists. Although approving of science in general, they do not like to view it as a career for themselves or their immediate family.

Our scholars and our university faculty groups must help by communicating their modern thought to those teaching humanities and social studies in our high schools, if we are to keep on level ground with Russia in the space age.—*Oscar Riddle, Ph.D., LL.D., D.H.C.*, retired staff member, department of genetics, Carnegie Institution.

Doctor and Hospital Assistants, Office Managers, and Receptionists Convene in Two Cities

Specific Jobs, Technics, Ethics Covered at Medical Assistants' Convention

• This fall two conventions, one in the Midwest and one on the West Coast, attracted personnel concerned with assisting the doctor directly in technical and medical procedures, and indirectly as liason between him and his patients, in protecting his interests, and generally contributing to the professional climate of his offices.

The American Association of Medical Assistants met for three days in Chicago's Palmer House; the Receptionists' Institute, a one-day program at the Eureka Inn, in Eureka, Calif., was held in conjunction with the Northern Redwood Empire Hospital Conference.

On this and following pages, TOPICS covers the two meetings separately. However, when both meetings have dealt with the same subjects, abstracts are given from only one speaker to avoid duplication of material.

Value of Association to Doctors

The creation of an organization such as the American Association of Medical Assistants gives dignity to the tasks and provides encouragement to the person who wants to make a career in this field. What had once been a job now becomes a profession. This is not a matter of substituting words. It involves raising work standards and introducing ethics which transform a common vocation into an uncommon profession. And this necessitates a regular course of education and training. Such a program also helps the individual to keep abreast of the times.

Thus, the association takes over the responsibility, technics and procedures of medical practice which doctors have no time to oversee, making the assistant more valuable to the physician. It also helps her to learn and appreciate the ethics of medicine, and to become better acquainted with the doctor's business contacts.

However, not all the accomplishments of the association are for its members, nor for the physicians they serve; the public benefits because those engaged in this work are better trained, better qualified to serve the public, and more ethical in the performance of their duties—*Fred Sternagel, M.D.*, advisor, AAMA.

Jobs Delegated to the Office Assistant

The basic jobs of the office assistant are so taken-for-granted that their importance can easily be underestimated—except by those dependent on their performance. Each of the items discussed here is simple in itself; each can create havoc unless done systematically and at specified times.

The telephone is the first step in getting the patient and the doctor together, and it is here that public relations begin. In answering the telephone, identify your doctor's office, then yourself. Next, accurately identify the caller. If it is Mrs. John Smith, and there are doubtless plenty of them on your book, get the middle initial.

Be considerate, pleasant, courteous and unhurried. Give information positively. Many people will expect you to make some decisions for them; however, do not confuse this with medical advice. If an appointment is requested, you might ask the nature of the trouble in an effort to gauge the time the visit might be expected to take.

Try to be discerning in separating the urgent from the routine. Physical examinations for insurance or compensation should be allowed from one-half to one hour; the sore finger may take only five minutes. The more you learn of the patients, their complaints, and idiosyncracies, the more intelligently you can plan your doctor's time.

In handling the mail, you should arrange it, top to bottom, as follows: 1. Checks and remittances. 2. Personal letters. 3. Requests for appointments (these should already have been made, and a notation as to time and date placed on the margin). 4. Medical circulars and periodicals.

An orderly appointment desk contains these items: 1. Appointment book. 2. Memorandum book. 3. Pencils and pens. 4. Receipt book for cash payments. (These, you note, do not include your purse, cigarettes, compact and other personal accessories.)

Your doctor's examining room must be neat, table covers changed daily, and pillow cases fresh. Contents of table tops must be arranged neatly.

In the handling of money, you should be able to make collections, deposits, and write checks for your doctor's professional and personal bills, and you should know enough about tax matters to know what is deductible as a professional expense, and what is not.

Make daily bank deposits except for your cash drawer, which you must have for making change.

(Continued on next page)

No holding back on cash; no dropping in of I.O.U.'s. Your daily deposits must have a reasonable amount of cash or your doctor may have a bad time if he is ever questioned by the Bureau of Internal Revenue.

Never discard ledger sheets. You will need them for the statements that patients will want for their own tax returns.

At the beginning of each day, insist that your employer record all house, hospital, or office visits he has made since your office closed the previous day, and any collections that may have been made by him; you must then get the charges and credits posted at once. By 10 a.m., all accounts should be up-to-date and posted on the ledger cards—*Murray C. Eddy, M.D.*, Hays, Kans. Advisor, AAMA.

Medical Personnel and Blue Shield

The job of explaining to a confused patient the difference between his Blue Cross plan and the Blue Shield plan is usually yours; and it is surprising how many people think they have coverage for the hospital and the doctor's fee when actually they do not.

Could you explain to a patient the kind of coverage he has—whether he has Blue Shield as well as Blue Cross; whether he has Plan A, or Plan B, and the limitations of these categories—merely by looking at his identification card? You should be able to, because it will be expected of you.

In my own state of Pennsylvania, the Professional Relations department of Blue Shield attaches so much importance to the part the doctor's office assistant plays in good relations between the doctor and his patients that they have for several years had a series of Blue Shield luncheon meetings for the education of office assistants. This cooperation dates back to 1951, when the Philadelphia girls decided to form the first organization of medical secretaries in the state. If such meetings extend to your area, and we believe they will, you will benefit greatly by attending them — *Robert L. Schaeffer, M.D.*, Allentown, Pa., Advisor, AAMA.

Personality and Good Grooming

There are three channels through which you create impressions in the people with whom you come in contact: the physical impression, based on appearance and health; the mental impression, made without any conscious effort on your part, and based on self-confidence, sincerity, alertness and similar qualities; and the conscious impression, which you make by deliberately exercising certain powers to influence in your favor the people you meet.

The physical impression you make depends on good grooming, and a sense of the fitness of things (such as not smoking when conversing with a patient). Becoming uniforms, crisply white, and worn without jewelry, create a professional appearance.

Personality is what you are. It is shown in the way you walk, the way you dress, the way you act emotionally. It is reflected in your attitude. One authority says a desirable personality is the extent to which an individual has developed habits and skills that interest and please other people.

Here are traits which physicians listed in a survey as "musts" in a good medical assistant: memory, tact, courtesy, dependability, poise, emotional self control, sense of humor, enthusiasm, and interest in your work. Go over this list honestly, and concentrate on improving your weak points.

And remember, no matter what worries or irritations there may be in your personal life, the medical assistant must suppress them and be pleasant—*Marietta Munnis*, member in charge of information, AAMA convention.

Telephone Tips for Medical Personnel

A local telephone company representative gave the conventioneers an opportunity to record their voices as they normally answer the phone in their office routine. When the play-backs were run, most of the women found that as a public relations representative for the physician, their telephone technic could stand a general overhauling.

Tips to take home with them advised assistants to: answer promptly; identify yourself; speak clearly; talk pleasantly; be prepared (with pad, pencil, and appointment book); get the name (telephone number, too, if the doctor is out, and offer to have him call back); be considerate (a patient's anxiety is often greater than his pain, and a kind word is good medicine); explain delays (patients do not like to "hold the phone"); end cheerfully (use the caller's surname, and let him hang up first); and hang up gently (a receiver slammed is like slamming a door after a visitor). And finally, consider the patients in the waiting room when you talk on the phone. They don't feel well; they are worried. An involved telephone conversation with a patient, complete with details of his symptoms, may unnerve them still further—*Bell Telephone Company of Illinois.*

Vera Kirby, customer consultant, Pacific Telephone Co., and a speaker at the receptionists' convention, demonstrates phone technic to Alex Jett, administrator, Humboldt County Community Hospital, Eureka, and chairman of the afternoon session. Kate Buchanan, right, of Humboldt State College, Arcata, Calif., spoke on charm.

Collections and Credit Arrangements Highlight of the Receptionists' Institute

In handling new accounts or new patients, basic rules should be strictly adhered to. Take as complete a history as possible on the first contact, because an account properly opened is commonly referred to as one-half collected. Too, the patient is more apt to tell the whole truth on his first visit, and you may not have the opportunity to see him again. Verify his insurance if he tells you he has coverage.

When his visit with the doctor is complete, pick up your receipt book and state the amount due. He is then either on the defensive, or he pays promptly, assuming that you do not plan to put the charge on the books and send him a bill.

If the call is to be a charge, set the account up on your ledger, with exact facts taken from your interview sheet. In billing, make sure you address the responsible party, listing the patient treated, if a minor or wife, separately. Send a completely itemized statement the first month, discussing all unusual charges. Send statements each succeeding month at the close of business for that month. Have an established policy for slow accounts, and use a good collection agency.

In the collection of accounts, you often run into the "insurance stall." Ascertain if the patient has insurance, if it is in effect at the time, and whether it covers your bill entirely or in part. Be able to explain to the patient that if the insurance company stalls on the claim, he must pay the bill and collect his money from the insurance company.

A patient will not feel free to visit your office while insurance monies are still due, and many times such claims are profitably handled by a collector.

If all unpaid claims are placed with a responsible collection agency, a proper analysis can be made of the accounts. There are very few credit criminals or dead beats who intend not to pay bills, and these can be determined by the records of the agency.

An agency understanding the unique relationship between doctor and his patient will, if its investigation shows a patient to be a welfare case, recommend to the doctor that the claim be cancelled back to him to be charged as a charitable item, or set ahead far enough to enable the patient to become a paying customer and rehabilitate his credit record—*Hugh R. Turner,* Medical-Dental Credit Center, Eureka, Calif.

The Psychology of Public Relations

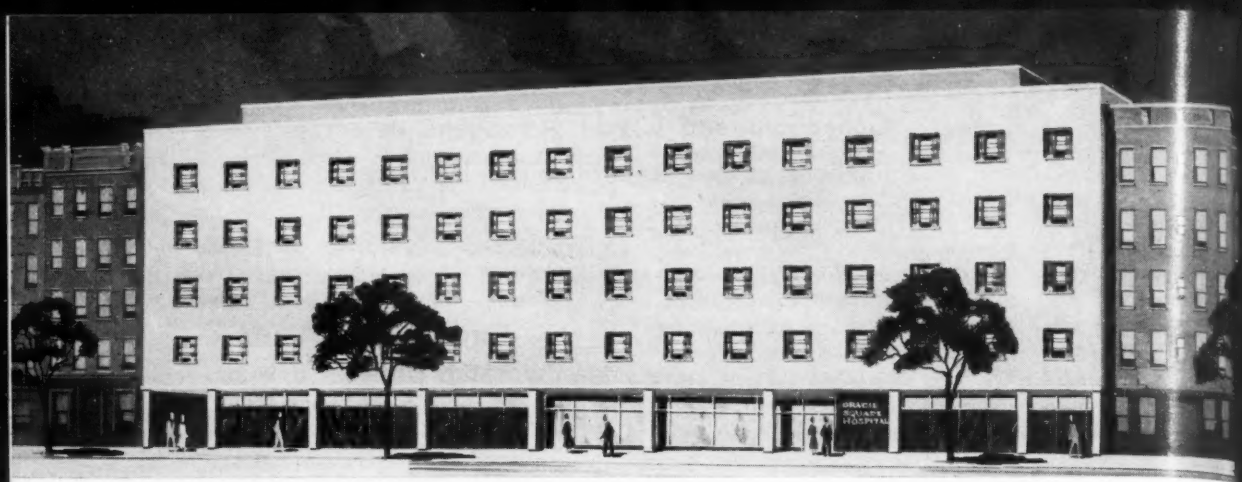
In order to understand public relations, and to achieve good public relations, one must think not only in term of one's relations to other people, but in terms of one's relations to oneself. To be tactful, thoughtful and sincere within oneself is to translate those qualities to others with whom you come in contact.

In developing a workable personal philosophy, re-evaluate your attitudes towards personal health; impression of self; members of your family; friends; activity (mental stimuli); knowledge and culture; love of beauty; goals (keep vivid, refurbish); eliminate fears and worry; like people; harmonize the finite and the infinite.

In order to understand human beings, we must understand their urges. The fundamental drives which provide the motives for most of our activities, may be stated as follows: The desire for physical comfort, which covers the organic, or native, urges; the desire for attention, and a feeling of importance and personal worth; the desire for pleasure and happiness; the desire to protect and defend those close to one, and to be of some service to one's fellow men—all of which may be classified as social urges.

In order to guarantee your steady progress, you must observe to the letter the caution to build and maintain a healthy mind. To this end, obtain a desirable degree of physical health; eliminate fear, envy, anger, worry and similar negative emotions; consider others' needs, interests, and problems, thereby forgetting your own complexes and conceits; think and decide for yourself; have faith in your own abilities; face realities with courage and confidence; change daydreams into realities; forget your yesterdays and make the most of today; cultivate a variety of interests; try to make life worthwhile for your associates; be sincere, genuine, and friendly—*Carl Strand, Ph.D.,* Humboldt State College, Arcata, Calif.

In charge of the receptionists' institute were, l. to r., Sister Brendan, administrator, St. Joseph's Hospital; Ernest Stewart, manager, Eureka (Calif.) General Hospital, and president of the Northern Redwood Empire Hospital conference; Carl Strand, Ph.D., Humboldt State College, Arcata, Calif.; and Hugh Turner, Medical-Dental Credit Center, Eureka.



Psychiatric Hospital Pioneers

A psychiatric facility which looks unexpectedly like a residential hotel and plans to employ equally revolutionary ideas in its treatment of mental and emotional disorders has opened its doors in New York City recently.

Important to the national attitude toward mental and emotional sickness is the concept behind the Gracie Square Hospital which holds that these disorders are as susceptible to hospital care and treatment as their physical counterparts. Of further importance, Gracie Square has embodied recommendations of many speakers at the Ninth Mental Hospital Institute of the American Psychiatric Association held in Cleveland in 1957. These authorities stress the advantage of treating the mentally ill patient right in his own community rather than shutting him off in isolated facilities far removed from family, friends, and even the referring physician.

While these innovations are at present breaks with tradition, they are accompanied by sound medical and psychiatric theory. The philosophy of the Gracie Square Hospital, like the actual carrying out of the details of its organization, has the good of the patient as its primary motif. This consideration was paramount in the selection of its location at 420 E. 76th Street where, in the heart of the city, at the very least the patient has the possibility of continued contact with his own psychiatrist or physician. Such an opportunity is designed to provide significant therapeutic value in many types of mental and emotional disorders.

Both the external and internal design of the hospital are the results of extensive psychiatric architectural research on the part of architect Robert Levien and consultation with Leonard Cammer, M.D., and Lothar B. Kalinowsky, M.D., to arrive at an intelligent estimate of the special problems of psychiatric treatment and anticipate them by expert design. To Dr. Cammer, associate clinic professor at New York Medical College, will fall the task of directing the new hospital and heading its staff of 15 psychiatrists and complete complement of psychiatric personnel. Dr. Kalinowsky, who is a research associate in psychiatry at the College of Physicians and Surgeons, Columbia University, will be associated with Gracie Square as a chief consultant in psychiatry.

For the morale of both the patient and the community, Gracie Square offers six stories of masonry facade with first floor and entranceway combining granite, stainless steel, and glass materials. Internally, such features as complete air conditioning, attractive decor, a sun deck, a recreation penthouse, and barber and beauty shops have been designed to eliminate any feeling the patient might have of being behind locked doors while, at the same time, he is provided with maximum protection.

The 232 beds for the active treatment of every type of psychiatric patient, including emergencies, are located in private as well as semi-private, three and four-bed rooms. These are furnished with studio couches, Danish modern furniture, and even colored plumbing.

Other facilities include examination and treatment rooms on each floor, an occupational therapy department, clinical laboratory, x-ray suite, electrocardiography, basal metabolism, electro-encephalography, a dental office, and an operating room. All these are provided with the latest in modern hospital equipment and will permit any psychiatric patient who develops medical or surgical problems to be given treatment without being transferred elsewhere and without interrupting psychiatric treatment. They will also serve to answer a special need in psychiatric hospitalization

by making it possible for qualified physicians and surgeons to provide care for medical and surgical patients who, because of associated mental disturbances, frequently cannot be treated in private general hospitals.

At the same time, Gracie Square Hospital is committed to keeping rates well within the range of patients of moderate incomes. No minimum period of hospitalization will be required and patients in need of only short periods of care may be hospitalized on a daily basis. It is planned to offer all treatments without extra expense for private nursing, although staff nursing is expected to be well in excess of the present standards recommended by the American Psychiatric Association's Committee on Mental Hospitals.

Moreover, Gracie Square Hospital has taken into consideration the constantly increasing public pressure to include mental illness in all health insurance and prepaid medical care plans. In the sense that this new type of psychiatric hospital may indeed prove the susceptibility of mental illness to a predictable range of hospital care, the hospital can be expected to take the lead in providing insured care for such illness as soon as it is included in standard Blue Cross and other health contracts.

Any psychiatrist who is a member of the American Psychiatric Association may admit his patients to Gracie Square, may visit them at any time, and may consult resident staff of the hospital on the treatment program. The same courtesy will be extended individually to all other referring physicians.

It is expected that most patients will be admitted on a voluntary basis. However, the hospital is prepared to admit those severely disturbed patients who require certification, and special attention will be given to the admission and immediate treatment of all emergencies—whether they occur on weekends or any hour of the day or night. The hospital is also prepared to provide means of transportation and trained personnel for the hospitalization of such emergency cases whenever necessary. As soon as possible after admission each Gracie Square patient will undergo a thorough diagnostic study. It will then be possible to provide him with an integration of all recognized forms of treatment in psychiatry, as well as full coordination of various somatic and psychological modalities.

Psychotherapy will be used individually and in group sessions. The particular psychotherapeutic program will be adapted to the patient's needs and will be coordinated with occupational, recreational, and other treatment procedures. The somatic treatment program will utilize all available agencies including insulin coma treatment, electric and other convulsive therapies, and the ever-growing spread of psychopharmaceuticals. Thus, where any one treatment proves insufficient, combined therapies may be used in order to give the patient maximum benefit for his hospitalization.

For those patients who can live at home but who need hospital-type psychiatric treatment, there will be a day hospital program. Similarly, there will be a night hospital program for patients who can pursue their normal activities during the day.

This extension of the "sleep-in" procedure permits a patient to work at his regular job during the day, returning each evening to the hospital for a treatment. Experience with "sleep-in" programs elsewhere has demonstrated substantial economies in terms of length of treatment (of some 200 patients similarly treated in one institution each year, most stay only three weeks) and in maximum utilization of hospital services.

The "sleep-in" and day programs at Gracie Square Hospital are expected to be particularly helpful for some patients in bridging the transition from full treatment to full discharge from the hospital.

In addition, a program for the treatment of geriatric patients will be offered and Gracie Square will be one of the few hospitals where patients addicted to opiates, barbiturates (or similar drugs), and alcohol will be accepted.

There is a generally recognized assumption that successful withdrawal from these addictions can be achieved only as part of a psychiatric program for rehabilitation. Physicians frequently encounter difficulty in arranging hospitalization for such patients and are therefore expected to be particularly appreciative of this service.

Thus, within walking distance for many of the city's psychiatrists and within easy availability to greater New York's 7,000 physicians as well as those from Long Island, Westchester, Conn., and New Jersey, this pioneer in mental health and sickness goes into full operation. Planning to institute an accredited psychiatric program fulfilling the requirements of the American Board of Psychiatry and Neurology, this hospital may well go many steps further to become the nationally recognized psychiatric treatment center devoted to clinical research and teaching which it aspires to be.

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How the 'Magic Brain' Operates

New horizons in hospital accounting through electronics

Second in a series on potential uses of electronic computers by hospitals

By John H. Gorby*

● Modern data-processing systems have amazing capacity and usefulness. But they need further improvements if they are to be used by hospitals to keep pace with the growing volume and complexities of their operations.

Health-insurance plans do not provide uniform coverage. Patient accounts receivable require extensive itemization to meet the varying needs of the health plans, as well as the amounts payable by the patient. The accreditation program of the Joint Commission on Accreditation of Hospitals, with its emphasis on continual improvement of patient care, requires more detailed medical records. Cross-indexing is required in minute detail, so that reports may be available at a moment's notice.

The steady increase in costs of operation is sufficiently serious that the administrator should have operating statements the next day following the close of the current fiscal period. The usual 10- or 15-day delay may be costly.

For the scientist, the situation is different. His problems usually involve a small amount of input data, but a tremendous number of computations must take place within the machine to reduce the results. In solving a scientific problem, such as stresses on jet wings in flight, several million arithmetic operations are performed on only a few hundred initial factors. Hence, the term "computers" accurately defines the machine needed.

The International Business Machines Corp. was one of the first companies to recognize the need for improved business machines. Its automatic sequence controlled calculator, the first large-scale computer, has been operated successfully at Harvard University since 1944. The remarkable performance of this machine is largely responsible for starting the present lively developments in the field of giant electronic computers.

Considerable confusion exists in the lay mind regarding the various types of equipment available. The term "automation" is loosely used in described data-processing systems. Actually, automation is a device for the automatic operation of lathes, milling machines, heat treatment plants, and the like. The machines are operated with prepunched tapes which actuate the controls. Varying data from the process are fed into a computer which directs the tape punch. The hospital field has no concern with "automation."

Several major types of computers have been developed. These are differential analyzers, analogue computers, and digital computers. The differential analyzer is pure mathematics. The analogue computer is basically a machine which accepts continuous measurements and produces continuous solutions to mathematical equations. The precision of results from the mathematical analogue computer is three to five places. The latter is achieved with considerable difficulty. The usual precision is four places. Answers are traced on a graph by a pen, are indicated on a plotting board, or shown on a dial.

A fire-control system for tracking an airplane is an analogue computer. Another example is the speedometer on your automobile. The rate of turning of a cylindrical shaft is converted like a numerical approximation of speed in terms of miles per hour. Here, the analogue of speed is shaft rotation.

The requirements of an alpha-numerical machine that will handle the financial and record storage problem of the hospital is solved by a machine that will count, rather than measure something. This machine is called a "digital computer." Hereafter, the term "computer" refers to a digital machine.

Digital computers owe their name to counting numbers on our ten fingers, or "digits." Counting on the fingers is one way to obtain an exact answer to simple arithmetic. Because we have 10 digits, instead of 12, or six, or eight, most computations are based on the familiar decimal system.

An increasingly important basis for counting is the "binary" number system. If we had just two fingers, our arithmetic might well be based on the binary method, which uses only two digits, 0 and 1. The chart below compares the familiar decimal numbers with the corresponding binary symbols.

The secret, if it may be called that, of the modern computer is the binary system of numbers. As only two digits are required, binary numbers may be represented in electronic equipment by the physical state of the electronic circuits—"on" or "off." A relay may be closed or open; a vacuum tube on or off; a magnetic core saturated either positive or negative. The "on" position may represent the digit "1," and the "off" position the digit "0."

While many forms of "coding" are used, a common method uses six relays, vacuum tubes, or magnetic

*1816 Lincoln Ave., San Diego 3, Calif.

cores to form the code for one alpha-numerical digit. Each of these units is called "bits." The cost and complexity of the modern computer may now be realized. If it takes six, seven, eight, or more "bits" to form one letter or number, then one of the computers, such as IBM's RAMAC 305, with a capacity of 5,000,000 digits, actually requires 35 to 40 million bits to produce this capacity.

Decimal	*Binary*
0	0
1	1
2	10
3	11
4	100
5	101
6	110
7	111
8	1000
9	1001
10	1010
11	1011
12	1100

Here is how a typical code would look after converting to binary symbols:

A = 100100
B = 101010
C = 010101
1 = 001100
2 = 110011
3 = 011100

In actual operation, one or two additional "bits" are added to each alpha-numeric code. These are called "parity checks" and are a device to permit the machine to check its own work. The checking operation prevents transposition of bits forming a code. It is done internally, automatically, and does not require operator interference.

Fortunately, machines are designed to accept decimal numbers, convert them internally to binary numbers, compute in binary, and deliver the answer in decimal figures. The hospital counting or medical records department does not have to think in terms of binary mathematics.

Some machines use magnetic tape or revolving drums for "memory" storage. The code, which may not be seen by the eye, is read onto the tape of drum. The "bit" 1 might be represented by a tiny portion of the tape magnetized; the "bit" O would be nonmagnetized. There is actually more to it, but this is a simple explanation.

The digital computer has many similarities to the system of the human operator, desk calculator, pad and pencil. It is highly precise, as opposed to the analogue computer. The machine will handle as many significant figures as required—generally to 10 or 15 decimal places. It has the following elements in one machine system, or "hardware": input, control, storage, processing, and output.

For input, the computer will accept numbers, letters, and symbols. Information is fed into the system from punched cards, punched paper tape, or magnetic tape, or inserted manually by a typewriter keyboard or switches.

The computer must operate under the direction of a "control" unit. This takes the place of the human operator and tells the machine what operations should take place and on what data. A series of instructions is called a "program," and because it is retained in a storage device, or portion of memory, it is called a "stored program." These coded instructions in storage are available to the control unit as needed to direct and complete an entire sequence of operations. Special instructions enable the control unit to make logical decisions based on intermediate results. These decisions allow the system to select the proper course among several alternatives for solving a problem.

It is this "logical" ability that gives the name of "magic brain" to the computer. Actually, all the machine does is decide whether two amounts are equal, larger, or smaller. Three separate courses of action then follow based on equality or inequality. If water flows in a pipe at a pressure of 10 pounds per square inch and meets another column of water at the identical pressure, nothing happens. If the water pressure met is only five pounds per square inch, the first column forces its way. If the pressure met is 15 pounds, the original column is forced back. That is the logical action of a computer, expressed in more familiar mechanical terms.

The storage area accepts data and stores it internally by electro-mechanical, magnetic, or electronic devices, until needed. Stored information is readily accessible, can be referred to once or many times, and can be replaced whenever desired. The information memorized by the system can be original data, intermediate results, reference tables, or instructions.

Each storage location is identified by an individual location number, which is called an "address." By means of these numerical addresses, a data-processing system can locate data and instructions as needed during the course of a problem.

The speed of processing is largely dependent on the "access time"—the length of time required to obtain

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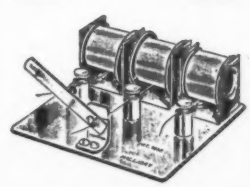

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MAGIC BRAIN continued

a number from storage and make it available to other units of the computer system. In most computers, this "access time" is usually expressed in microseconds, or millionths of a second.

The processing unit adds, subtracts, multiplies, divides, and compares numbers in a manner similar to a standard desk calculator, but at the speed of light! Complex operations are always combinations of these basic operations. The processing unit makes the "logical" decisions referred to above. It can distinguish positive, negative, and zero values and then transfer this information to other units of the computer.

The last step is the output. After the computer has done its work, it can transfer the answers to storage or "write" them directly. Results may be punched into cards, recorded on magnetic tape for storage, or printed out in report form. Printers themselves have been designed to handle the high-speed computer output by printing an entire line of information at a time. The patient's bill has been kept in storage and the patient is now ready to leave. The high-speed printer on the RAMAC 305 will print this out at the rate of 90 lines of 120 characters a minute—faster than one a second.

Another illustration of output would be the hospital payroll preparation. The hours worked have been fed into storage daily or weekly. The stored program retains the rate, number of deductions for withholding tax purposes, and any other miscellaneous deduction. When the date arrives to prepare the paychecks, the checks are fed into the printer, and the entire operation is printed out automatically. A payroll for 800 employees could be printed out in about 10 minutes.

In addition, earnings are accumulated and retained for payroll tax purposes. Instead of typing the Form 941 for Social Security tax report, the data—social security number and other information—on magnetic tape or punched cards, and the tape or cards mailed to the Social Security office in Baltimore and the check for the tax to the local collector.

Whenever computers are discussed the word "program" is frequently used. It is a concise way to say "series of instructions." A program defines in complete detail exactly what a machine system is to do under every conceivable combination of circumstances. If some instruction is omitted from the program, the machine is helpless when it comes to that part of the problem.

For example, the local Blue Cross plan may provide full payment for a ward bed. The patient uses, instead, a private room. The computer would be "programmed" to pull out that portion of the charge payable by the patient and the part that Blue Cross would pay. The finished bill would automatically print out the bill in two parts, with proper segregation between the patient's charges and Blue Cross charges.

(The next installment will deal with actual uses in the hospital.)

HOSPITAL Topics

Goes Calling

. . . . on Stanley W. Martin, administrator, and Margaret Klink, chief dietitian, Milwaukee Hospital

• The centralized food system of Milwaukee Hospital, which had been adequate to meet the needs of the hospital when it was founded in 1863, had gradually, as the hospital grew, become inadequate. At one point in its development, a decentralized system had been installed to have the food system serve the extended physical plant.

The setup was costly in time, manpower, and supplies. Food was sent in bulk to 13 small kitchens where it was prepared and the individual trays were set up and served by the floor nurses. Special diets were prepared in a separate kitchen, sent to patients' rooms in open, unheated carts. It required 65 employees to handle the non-selective diet, not including the housekeepers who washed the dishes by hand on the various floors.

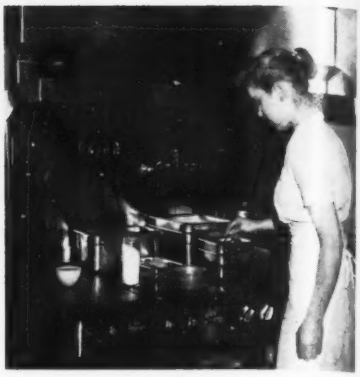
When an expansion program was begun late in 1955, administrator Stanley W. Martin put the complete reorganization and re-equipping of the food service department high on the agenda. It was a project which had caught his imagination and enthusiasm when he came to Milwaukee Hospital as assistant administrator in 1953 from his post as administrator of Wood River (Ill.) Hospital. In November, 1955, he became administrator and could go ahead with his project.

He had already, in 1954, purchased one Meals-on-Wheels cart (18 trays) to check reaction. Cart and reaction were speedier and more encouraging than anything that had happened in Dietary within easy recall.

(*Continued on next page*)

In the old kitchen, upper right, the salad maker's space and equipment was the same as the average housewife would have. In the modern facilities of the new kitchen, the women below, left, have ample work space with built-in sink, and dishes stacked in lowerator dispensers are within easy reach. Finished salads, right, are stored in pass-through refrigerator.

Everyone in the kitchen has specific jobs to do, and adequate, efficient facilities with which to do them. The woman on the left, in charge of between-meals-nourishment, has her own corner, and electric blender, for making milkshakes.



The chef in the center cuts the big roasts personally; the simpler preparation is done by one of the apprentices, whom he has trained. The girl on the right is responsible for special diets, and has a stove of her own for the purpose.

MILWAUKEE HOSPITAL continued

By October, 1956—streamlined, highly organized as to thinking and doing—department wheels were turning with the rhythmic hum indicative of maximum efficiency and effectiveness.

Margaret Klink, who had joined the staff in 1955 "to help out temporarily" was chief dietitian with a free hand to test administrative innovations and put her therapeutic diet experience to work. A graduate of Mt. Mary College, Milwaukee, she had interned at the Veterans Administration Hospital in West Los Angeles, Calif., and worked with the Milwaukee Diabetic Association at summer camps, and as a therapeutic dietitian at Deaconess Hospital in Milwaukee.

Personnel had been reduced to 48 workers on a straight 8-hour shift, to part-time workers and four dietitians. Selective menus incorporated the best in diet balance and variety; costs were sharply reduced.

In May, 1958, Milwaukee won one of the six first awards in *Institutions* magazine's 1957 annual contest for excellence of hospital kitchen design and service.

The combined philosophy of Mr. Martin and Mrs. Klink is "think ahead and move fast." Thinking ahead includes planning the meat block a month in advance, allowing enough flexibility to take advantage of price. U.S. graded meat is bought on bid; meat cutting is done in the hospital kitchen by experts, to whom staff newcomers serve a term as apprentice.

Moving fast is the human element accelerated by mobile equipment which eliminates backtracking, waste motion, confusion.

All supplies are received in the dock area, where canned goods go to the main storeroom via freight elevator. Meat weights are checked on a scale and supplies transported by cart to the meat refrigerator in the cluster of walk-in refrigerators and freezers—all stainless steel with removable shelves that can be washed in the washing machine. To one side is a utility room with mop sink, mops, pails on casters, and automatic can washer.

Across the area is a day storeroom which contains a two-day supply of canned goods, a weekly supply of paper items and cleaning supplies; cereal products and spices.

The bakery shop has two stack ovens, a doughnut filter fryer, two hot plates, and a 20-quart tilting steam kettle which safety-locks to various positions. A 60-quart mixer is adjacent to the work table; over it are eight spice bins. Four portable bins with sliding covers store large quantities of floor, cake flour, sugar, and salt.

The baker's table, stack ovens and counter are mounted—as are all other work units—on a six-inch tile base for ease of floor maintenance.

The preparation of perishables is broken into two phases: the preliminary or rough preparation and the actual preparation.

Rounds of beef, legs of lamb and veal, and loins of pork are made oven-ready, with a time-saving electric meat saw, at the meat block and cutting table. Vegetable preparation is done in an adjoining area, which houses a vegetable peeler, chopper and mixer used to

mash potatoes and grind meat. Three portable bins hold potatoes and onions.

The range battery for heavy cooking consists of four stainless steel gas ranges, one with a fry top; four ovens, a fryer, broiler, and two-deck roast oven. A ceiling rack keeps small pans, ladles, and spoons handy. A sink unit with waste disposal system and a cook's table run the full length of the range battery. Table legs are pear-shaped; corners are bullnosed and coved for safety and ease of maintenance. An exhaust system, with removable filters for degreasing and washing, removes cooking odors. A smothering line for possible range fires is within easy reach; hand fire extinguishers are wall-mounted—and personnel know how to use them.

Four steam kettles are located back-to-back to range battery. Two steam chefs are in line with a 30-gallon tilting kettle, two 40-gallon kettles, and an 80-gallon "stock pot." Adjacent is the diet range, used exclusively for special and modified diets.

Running parallel to this section is a stainless steel work-table complete with chill tank. Welded along the center of the table under a shelf is an enclosed, stainless steel splashback fitted with four electrical receptacles, two to a side. The special construction of the table allows it to be of service to three areas: the modified diet area, between-meals-nourishment area, and the heavy duty cooking area.

A sink and disposal unit service both the diet and nourishment areas.

The salad and dessert preparation area is across the aisle from the range battery. "L" shaped counter-top cabinets supplement the working space of two tables. Trays of desserts and salads and butter and cream setups are stored in a pass-through refrigerator. Here, too, are prepared bag lunches for student nurses, residents and internes on night duty.

Also across from the range battery is a stainless steel counter-top cabinet with meat slicer, where roasted meats are sliced to four-ounce servings (larger than the portions possible under the old system), and oranges, tomatoes, even fruit cakes are sliced evenly.

Before we discuss tray preparation, let us look in on the employees cafeteria. Prior to renovation, this was a very small, windowless area. Enlarged, air-conditioned, and with a modern Chinese decor combining soft colors for restfulness and character for sustained interest, it seats 180 persons. The counter includes stations for hot foods, sandwiches, salads, featured grilled selections. To step up the customer flow, sandwich spread is scooped onto the choice of bread and the patron completes the sandwich at the table; everyone helps himself to hot coffee, milk, and cream. Seven hundred meals a day are served by four counter workers; previously, it took five workers to serve 140 hospital personnel family style. Menus are more varied, portions larger; the cost to the consumer 3c per meal lower.

During meal service time, top priority is given to the two demand areas—the patient tray assembly table and the cafeteria.

All foods, hot and cold, are literally rolled into position, and a portable condiment cart holds packaged salt and sugar substitutes, tea bags, packets of Sanka and Postum. Eighteen meals-on-wheels carts are parked into position at the loading table of the power driven conveyor belt, with a spare cart always in reserve in case of breakdown.

Workers stationed on either side of the conveyor belt load only specified items on the passing trays. Lowerator dish dispensers give fingertip availability; a foot pedal operates the motor-driven hydraulic tray lift.

Another belt picks up the trays and carries them to the landing strip where the completed cold tray is loaded in the cold compartment of the Meals-on-Wheels cart. The hot foods are placed in a heated drawer whose number corresponds with the bed number on the patient's cold tray ticket. One side of the tray table is for hot foods, its eight openings thermostatically controlled to keep the food piping hot. A two-way intercom between the hot well station and the cook's range assures prompt replenishment of foods without stopping the conveyor belt line. The cold side of the tray table

(*Continued on next page*)

In the old kitchen facilities, opposite, setting up the patients' trays was time-consuming and involved considerable bending and stretching, during which hot food got cold, and vice versa.

Assembly belt system, right, is fast and highly efficient. Loaded trays are placed in Meals-on-Wheels carts, either in the thermostatically controlled openings where they are kept piping hot, or on the cold trays, where they remain appetizingly chilled.

is fitted with an insulated stainless steel ice bin and three lowerator bread dispensers. Loaded carts are delivered to their designated stations, plugged in, and nursing personnel takes over. Aides deliver the trays to patients.

An a.m. and a p.m. supervisor are in complete charge of all food areas except the range battery, which is under the 1st cook. All changes in instruction come from the chief dietitian's office to the supervisors. Keeping to channels, and keeping those channels clear, is responsible for much of the smooth work flow.

The centrally located dishwashing area in the kitchen services both cafeteria and patient trays. Three disposal units take care of food and paper items. Two sinks allow for pre-soaking of flatware and certain dishes. Two portable soiled dish tables within easy reach of the dishwasher permit soiled dishes and trays to be fed steadily into the dishwashing machine. Clean dishes are placed into portable dish dispensers. Adequate china and flatware is kept available; replacements are not stored within the areas in order to discourage putting unnecessary items into circulation.

Thus far we have discussed the mechanics of Milwaukee Hospital's system. Behind the machines, and making possible their most productive operation, is a planned rapport, not only between dietary and nursing personnel, but between dietitians and patients. As soon after admission as advisable, each patient is visited by a dietitian. Their likes and dislikes are taken into account wherever feasible; even if they cannot all be honored, the patient is gratified by the visit. Ambulatory patients on restricted diets are talked to in groups, told the whys and wherefores of their special diets. This therapy serves as both consolation and encouragement; no patient feels quite so lost knowing he is also not alone.

Written instructions from the attending physician are required for every special diet, relieving nurses of patient pressure.

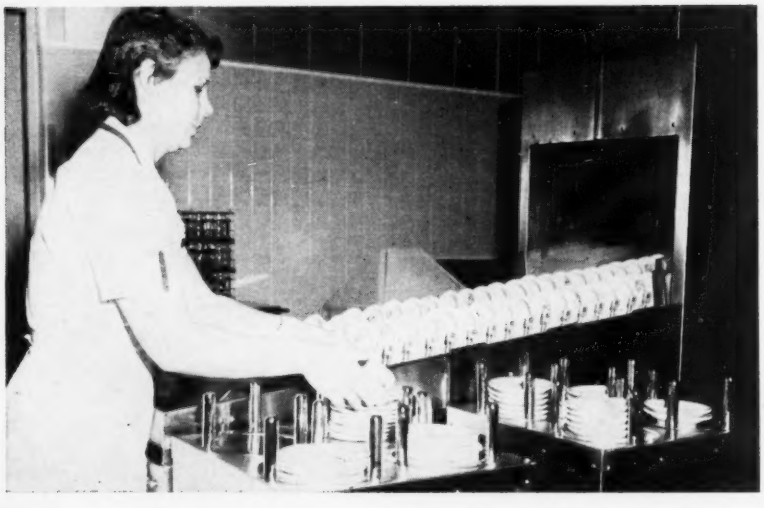
A deluxe a la carte service is a unique feature at Milwaukee Hospital, and one which new fathers especially revel in as a treat for their wives. The patient, in special consultation with a dietitian, decides on her menu, with filet mignon and lobster tails top favorites. The tray, laid with linen, is served directly from the kitchen to the patient by hand. This de luxe a la carte meal is not covered by hospitalization, and charges vary with menu selection.

In the spirit of the new era, walls of the kitchen are tiled in yellow, and workers' uniforms are the same sunny color. A generous patron contributed a Musak system with dials for volume control spotted in the various work areas. It all adds up to a food service notable for efficiency without sharpness, speed without haste, and ample good food attractively served.

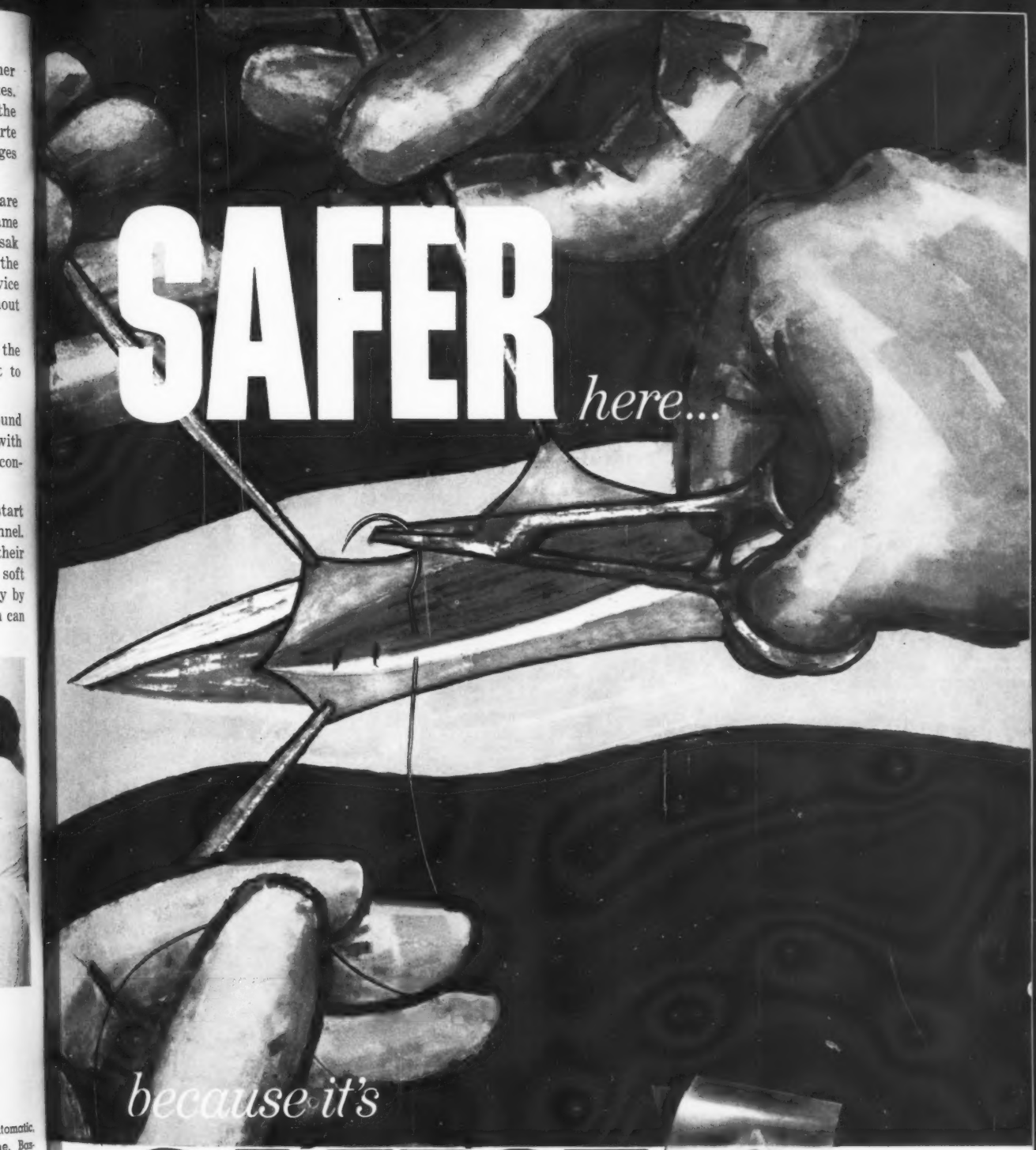
As often happens in the case of a job well done, the Milwaukee Hospital dietary department is about to take on added responsibilities.

When the new wing was built in '58, an underground tunnel was put in connecting the hospital kitchen with the Layton Home, for the aged, which operates in conjunction with the hospital.

This month, the 50 elderly men and women will start enjoying hospital food, conveyed to them via the tunnel. Those of the patients on regular diet will have their choice of the selective menu; the rest will have soft or modified diet. And all will be visited frequently by hospital dietary personnel so that special attention can be given to their personal preferences.



Old-style dishwashing, though automatic, required two women to the machine. Baskets filled with dried dishes had to be carried to cupboards to be stored till next time. The modern way, left, brings finished dishes, properly sorted, directly to the worker who places them in lowerator dispensers, ready for the next meal.



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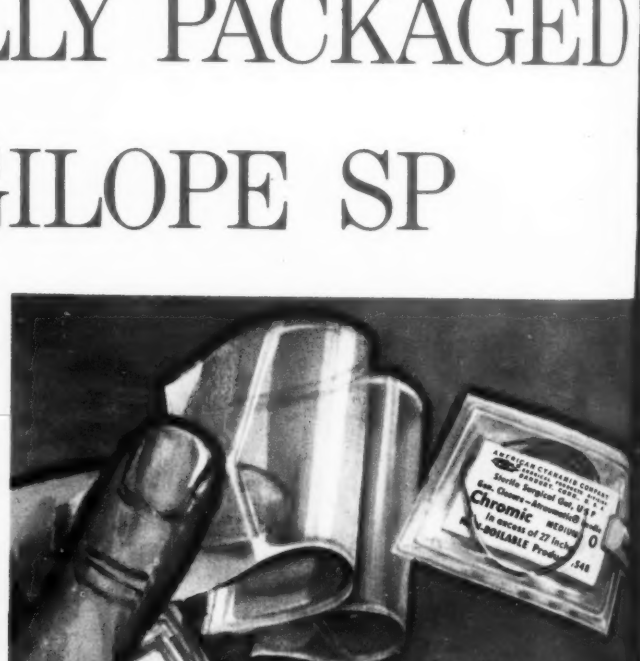

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How One Ohio Hospital Controls Its Costs

Part II

By Ellen L. Davis

Part I of this article appeared in the January issue of TOPICS, and covered the general philosophy and approach of Salem City Hospital Association to the number one problem of all hospitals, regardless of size or locale—how to control rising costs. Also discussed were the analyses and changes made in the dietary and laundry departments to achieve better and more economical operation.

Part II discusses innovations in other departments, together with the objectives and functioning of the hospital's School of Practical Nursing.

PURCHASING

The first step in reorganizing the hospital's purchasing setup was centralizing the entire department. The office of the purchasing agent, William M. Hannay, and his secretary-typist, the salesmen's lounge, and the warehouse and delivery area are in one physical area. The delivery ramp is so located that there is immediate access to the storeroom. There is also plenty of parking space so that salesmen, too, have easy entry to their destination.

Standardization of the inventory over the past two years has reduced it from 2,500 to 1,600 items, and the figure continues to decrease. There is a continuing analysis of quality and waste, and rigid inventory controls are incorporated into the perpetual control system.

Purchasing has been centralized functionally as well as physically. The department is responsible for all purchases, except food and drugs, even down to magazine subscriptions. The dietary and pharmacy departments work closely with purchasing, however, and place their orders through that department.

Purchased service, too, is the concern of the department. Under the old system, each department harassed by an improperly functioning faucet called a plumber on its own. Now the request is turned over to purchasing which has a selective list of repairmen who are easily available, reliable, and reasonably priced. "We find it far less expensive over a period of a year to use outside repairmen," Mr. Mosher says.

PHARMACY

The pharmacy is under the direction of Jack V. Hovis, a full-time registered pharmacist, assisted by a clerk-typist. A formulary is maintained. This is under constant scrutiny and continuing standardization. As one small instance, it formerly carried 16 types of multivitamins; currently, one brand is stocked.

A pharmacy committee, consisting of three physicians, meets with the pharmacist each month to discuss additions and deletions to the formulary. The committee also serves as ballast when brainstorms regarding new products hit pharmacy propelled by pharmaceutical companies' promotion.

(*Continued on next page*)

Graduates of the Hannah E. Mullins School of Practical Nursing get together in the living room of the school—which is just across the road from the hospital—to compare notes. Having lived and studied together, the young women have a bond of common interests, and like to share with each other their experiences in the various departments of the hospital.

Students of the school of practical nursing receive a 12-month course of classroom and actual practice work, for which they pay $250 tuition, plus meals, books, and uniforms. Pleasant dormitory rooms, with linen, blankets, and towels are supplied free, as are aprons and caps. The girls are responsible for keeping their quarters clean and neat, and doing their own laundry.

OHIO HOSPITAL continued

The charges for drugs at Salem City are the same as those in the area, yet the income from its department is somewhat higher. Mr. Mosher credits this to the method of billing.

"It is possible for a hospital to unknowingly give drugs away. Naturally, no hospital does this deliberately; but a few unrecorded tablets here, and several capsules there, are like the nickels and dimes; they add up to dollars."

Aluminum boxes in the nurses' stations are individually marked with the names and room numbers of the patients. All drugs prescribed are placed in these boxes and billed immediately. If there are any left over that the patient will not need following recovery, he receives a refund before or after he goes home. This is a complete reversal of the familiar procedure in which the pharmacist or nurse learns from the chart what drugs were dispensed. The latter practice leads to late charges.

Salem's system keeps charges correct and in good control. And the effect of a refund on a discharged patient who is human enough, and uninformed enough, to feel hospital costs are way out of line anyhow, needs no comment.

Any emergency stock used is replaced—right in with the stock—by a patient slip. This stock is checked daily by the pharmacist, and all patient slips billed. There is also a flat $3 fee for floor stock (tablets costing $1 per hundred or less). Some patients may use quite a few of these pills; others, none. But usage evens itself out, and the procedure eliminates petty bookkeeping.

The pharmacy, like purchasing, was physically revamped in the past year for a more pleasant and more efficient working situation. Here, too, canny buying resulted in substantial savings.

The best bid for pharmacy cabinet work was $17,000 for birch cabinets. Following intensive comparison shopping the job was given to a cabinet-making firm in Youngstown, O. Result: limed oak cabinets made to exact specifications to ideally meet all department needs. Total cost: $6,000.

The storeroom showed a neat saving in metal shelving. Bids for built-in shelving ran from $22,000 to $25,000. The hospital purchased steel convertible shelving which is highly flexible, and can be arranged to meet changing requirements. Cost: $10,000.

"It's a sort of rule around here," comments Mr. Mosher, "that the only figures we accept are our own; and we don't accept them until we've considered all the angles, and checked them half-a-dozen ways."

HOUSEKEEPING

"In housekeeping," says Mr. Mosher, "it had come to our pained attention that some of the workers were spending an hour to do a job requiring about 10 minutes of actual work—like washing a window. From our observation, it seemed that such a worker had a certain kinship with the general who got on his horse and rode off in all directions. She would choose her rags, in a highly selective way, hunt up the cleaning product she planned to use, then put everything down while she went off to the washroom. In the interim, another worker, in momentary need of a few cloths, found the little pile very handy, and appropriated same."

To verify its casual viewing, administration had the hospital's industrial consultant survey the situation. He found that nonproductive time took up 34.5 percent of the working time, broken down as follows: preparation and cleanup, 15.8 percent; walking, 12.3 percent; idle, 6.4 percent. The study indicated over-all productivity could be increased 50 percent by more cleaning and fewer people.

To put the responsibility for tightening up the department in one person's hands, a housekeeper was hired. "We were not interested in obtaining someone with a proven proficiency in scrubbing floors, polishing furniture, or emptying wastebaskets," comments Mr. Mosher. "We were, however, keenly interested in finding someone with a business background, and proven ability to handle people."

It took some persuading to convince Mrs. Bette Waivaiole, business manager of a local firm dealing in products, that she could successfully translate her experience to a hospital dealing in service.

"Actually," she says "my business experience has proved invaluable. Anyone can be taught how to clean; not all can acquire the attitude that makes a good worker. We screen our people for their ability to think, and a genuine desire to please the people they serve. Age is not a basic consideration; our workers range from 18 to 72 years of age.

"They receive, and we have found that they basically want, close supervision, and a schedule that keeps them fully occupied. Their duties are specific and explicit, and are posted on the bulletin board. They work an eight-hour shift, and are equipped with the best working tools available.

"To do away with the hunt-up, pick-up, and put-down routine, a cart was designed which holds everything a woman needs for any type of cleaning job. When she gets an emergency assignment on another floor, the cart goes with her so that nothing is disrupted on her temporary location.

"We also dispensed with aprons for our cleaning corps, and put them in white uniforms. This is good not only for their own morale but for that of the patient who associates white with scrupulous cleanliness. In some psychological way this association is translated into a sense of security and trust in his surroundings."

In the less than a year that the housekeeping and laundry systems have been in operation, labor costs have been cut sharply, and the effect on patients and visitors has been most salutary. Far more important, there has been no incidence of blindness in a premature infant, no staphylococcal infection, impetigo, or diarrhea in the hospital.

LABORATORY, X-RAY

In the laboratory and x-ray departments, costs have been cut by only a small margin, because of the insistence on quality. A review and subsequent tightening-up of the technicians' work schedule allowed a reduction in staff from five to four technicians. Last year, these four workers did a total of 55,000 tests, though the accepted standard is 10,000 tests annually per technician. "We believe the standard could be raised to 15,000," Mr. Mosher declares.

Salem City operates on a standard of 5.50 nursing hours per adult patient, handled by a staff which varies *with the patient census.* Having a highly flexible staff makes it possible to put part-time nurses on full-time duty when the patient load is at its peak, and reduce it to part-time when the census drops. Daily reports submitted by Alice Crowell, R.N., director of nursing service, keep the administration constantly informed; so the staff can be adjusted from day to day.

By relating nursing care to census, Salem City was able to cut $60,000 off its nursing payroll in 1958. It used the money to give a general pay-scale increase of 12 percent, which put the nursing staff in the highest wage scale in northeast Ohio. In addition, it reduced patient room rates 50 cents a day.

A house physician, F. F. Gonzales, M.D., is a regular member of the staff on full salary. "He is not here to learn," explains Mr. Mosher, "but to handle emergencies, to serve patients in crises arising at odd hours, or when their personal physician is otherwise unavailable. This is the way we look at it: The average resident is paid about $200 a month. Say you have half-a-dozen residents. That's $1,200 a month, or $14,400 a year for doctors who are still in training—plus about $10,800 maintenance.

By hiring a doctor who has the self-sufficiency of a practicing physician we free residents to go to teaching hospitals and charity clinics where they are so sorely needed. In addition, when we have an emergency case, the mature judgment of our house physician is available in less than five minutes."

For some years, Salem City used high-pressure coal boilers for heat and hot water. Under Ohio law, these are required to be tended by licensed firemen. Currently, it uses three 40 horsepower boilers, which are taken care of by one engineer who also does maintenance work, such as minor plumbing and electrical and mechanical repairs, throughout the hospital.

The present cost: $9,000, divided into $5,000 for fuel and $4,000 for labor. Under the old system, the cost was $15,500, divided into $2,500 for fuel and $13,000 for labor (three eight-hour shifts working seven days a week).

The hospital maintains no public-relations department, because the administration believes none is needed. "I would judge," says Mr. Mosher, "that at least 85 percent of the good will engendered by the hospital is based on the kind of service it gives, and service is the job of every single worker."

Yet the visitor to Salem City sees evidence of public relations here and there throughout the hospital. Across from the nursery, the wall of a utility room is covered with pictures of infants, taken by hospital personnel. When a new mother goes home, she takes along her baby's first picture, plus a carrying case of six formula bottles, courtesy of her child's birthplace.

Down the hall is the fathers' lounge, very attractively and comfortably furnished, including a courtesy coffee bar, where expectant fathers can help calm each other's nerves. It is affectionately referred to by staff and patients as the ready-to-bear department. Expectant mothers also like to visit here with their husbands, and have between-meal snacks at one of the tables.

Outside the purchasing department's office is the salesmen's lounge with soft-colored walls and good reading lamps. If a company representative must cool his heels for a while he can also warm his innards with a cup of coffee, and relax with current magazines.

Infinitely more important is the hospital's relationship with the patient. When an ill or injured person

(Continued on next page)

is admitted there are no preliminaries of a financial nature. Only when he is in proper physical and mental condition does the credit adviser go over the financial situation with him.

If he has no health insurance, or it is inadequate, arrangements are made with a local bank for him to pay off his indebtedness with a bank loan. Thus a cushion is provided against the strain of lump-sum payment; the patient enjoys very low interest, and feels the hospital has gone out of its way to give him a friendly lift over a difficult hurdle—and the hospital's accounts receivable are in excellent order. Every effort is made to hold accounts receivable to between a month-and-a-half to two months' gross income.

In January, 1957, the board of trustees decided to discontinue its professional school of nursing which, established with the opening of the hospital in 1913, had graduated 280 registered nurses.

The decision to change it to a school for practical nursing was made after a searching review of trends in nursing education generally, and the needs of the hospital's own community specifically.

The change-over took into consideration these factors:

(1) The increasing cost of operation—$72,000 annually—at a deficit of about $50,000. This, borne largely by patient income amounting to $2 per patient day, was on the increase. Moreover, use of patient income for this purpose was against the hospital's basic policy that patients should not be expected to underwrite deficits not directly concerned with their own recovery.

(2) The fact that at the time there were 62 schools of nursing in Ohio, only 23 of which were fully accredited by the National League for Nursing. Analysis of the local situation showed that local girls preferred to go out of town for their higher education.

(3) The critical shortage of faculty, with 100 vacancies in the Ohio schools alone.

It was also the opinion of the board that since today's registered nurse is more or less a supervisor, or is a technician performing skilled nursing functions under medical supervision, she should be university-trained, and able to assume some management and administration responsibilities. The balance of the nursing team is made up of practical nurses, nurses' aides, and others. It was in this gap between the highly skilled and the semi-skilled that Salem City felt its school could make the greatest contribution.

The Hannah E. Mullins School of Practical Nursing, under the direction of E. R. Durand, R.N., offers a 12-month course, with a two-weeks' mid-term vacation, of which four months are preclinical or classroom work, and eight months are clinical or supervised hospital practice. Students must be high-school graduates between 17 and 35.

Over 600 hours of classroom instruction are given, concurrent with practice, on personal and vocational relationships; personal and community health; body structure and functions with related physical conditions; home management and nutrition; nursing principles and skills; diversional and rehabilitation activities.

Supervised hospital experience covers care of medical and surgical patients; care of mothers and newborn; six weeks pediatric affiliation at Akron Children's Hospital; central supply room; recovery room; and, if possible, two weeks elective experience in the service of the student's choice.

In addition, community leaders hold informal seminars on religion (a minister, priest, and rabbi are the discussants); English; civics; the arts; literature; music; how to travel; etiquette and its reasons; manners, dancing, and posture; dress and make-up; speech development; and the hospital from the patient's point of view.

Graduate practical nurses take over the snack bar at the school of practical nursing while the undergraduates are away on mid-term vacation. It gives them an always-welcome chance to visit with an old friend, E. R. Durand, R.N., director of the school, shown on the left. These nurses fill the gap between highly-skilled and semi-skilled personnel at the hospital.

Tuition is $250; meals in the hospital cafeteria, $5.25 per week; books, $15; and uniforms, $30. Dormitory rooms, bed linen, blankets, towels, aprons, and caps are supplied free. Students supply their own white stockings and oxfords (loafers and sports shoes are not permitted), and are responsible for keeping their quarters clean and doing their own laundry. Graduates are eligible to take the state examintion for licensure at the state fee of $15.

In summing up Salem City's projects and accomplishments, Mr. Mosher concludes: "We felt the need of a more sophisticated management to meet the demands of a more sophisticated public and employee group. The situation dictated that we use all the facets of modern management, under strong direction and tight control, along with close coordination of personnel.

"Discounting all the variable factors, we have so far reduced our operating expenses approximately 15 percent. There is much yet to be done, but we feel that we can go another 10 percent downward in the process."

Health Insurance *Newsletter*

By State Sen. George R. Metcalf*

British Plans Flourishing. Voluntary health insurance plans in Great Britain, expected to disappear with the advent of national health insurance ten years ago, have nevertheless been growing at an increasing rate—from 34,000 contributors in 1949 to 300,000 now.

These figures are cited by J. F. Follman, Jr., director of information and research, Health Insurance Association of America, in an article in a recent issue of the *Journal of the American Medical Association.*

Reasons given for the increase include:

—A continued increase in the cost of certain services provided under the government program— notably, dental care, drugs, and optical appliances.

—A desire for private rooms in hospitals.

—A limited number of governmental hospital beds.

—Restrictions on choice of surgeons, specialists, and consultants.

* * *

Advisory Committee Meets. The advisory committee to the State of New York Joint Legislative Committee on Health Insurance Plans—including a broad cross-section of authorities representing such community interests as medicine, hospitals, nursing, Blue Cross, industry, and labor—held its first meeting December 17 and 18.

The committee heard an address by John G. Steinle, special consultant to the legislative committee, outlining the problems the committee faces.

"For all too many people the very excellence of the medical care in this country is something of a mockery," Mr. Steinle said. "Too many must simply do without medical care for the simple reason that they cannot afford to purchase it. Good as our system is, simple candor compels us to admit that it is not good enough. We shall have no room for complacency about our standards of health until we can rightfully claim that the economic barrier no longer stands between the overwhelming majority of the American people and the medical care they need.

"Many millions of Americans each year postpone or deny themselves the medical attention they need because it costs too much. What this means in terms of death and disability from disease which could have been cured if caught in time is simply beyond determination. There is an economic loss in the wastage of manpower. There is a sociological loss in the disruptive effects of illness on family ties.

"Above all, there is the simple human loss—a beloved parent, husband, wife, or child. The statistics may tell of percentages of cases, but to every individual involved the percentage is total, the sorrow is limitless.

"Happily, there is a place on the American scene for both types of health insurance—the voluntary, nonprofit type represented by Blue Cross and Blue Shield, as well as the commercial companies with their more flexible variety of insurance packages. Between the two of them, there is at least the possibility that they may eventually come to offer the protection necessary to satisfy the health insurance needs of many more American citizens than are now covered.

"We have an opportunity not only of expressing criticism but of expressing it in a way that will count. In our position, we can speak from a platform and in a voice that will command attention. We have the possibility of achieving change, of bringing about improvement, simply by placing ourselves on record as in favor of specific measures. This is a tremendous power and one I would hope we can use with wisdom and discretion.

"We should regard compulsive legislation in any field, perhaps, as a last resort. That which free men do in response to the persuasion of their fellowmen in a free society has much more chance of achieving a useful social purpose than anything done grudgingly in response to hastily conceived and hastily enacted legislation."

The full text of Mr. Steinle's remarks is available on request.

* * *

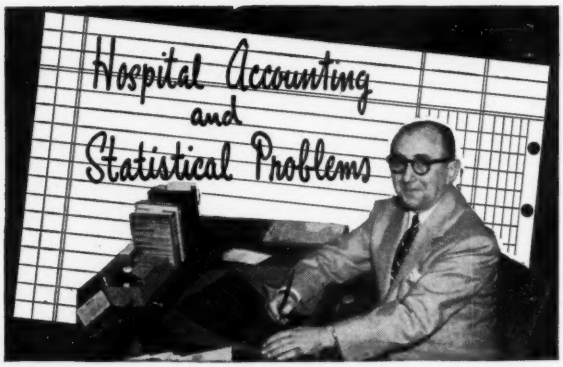
Increase in Insurance. Seven out of every 10 persons in the United States have some form of health insurance. This is almost twice as many persons as were so protected 10 years ago, according to "The Extent of Voluntary Health Insurance Coverage in the United States as of December 31, 1957," 12th annual survey published by the Health Insurance Council.

Other conclusions in the survey are:

—Total benefit payments under health insurance programs have been increasing rapidly. This reflects not only the larger numbers of persons protected, but also the fact that benefit provisions have become progressively broader and more liberal.

—Benefit payments have more than doubled in the past six years and are increasing at a much more rapid yearly rate than the number of persons with health insurance.

*Chairman, State of New York joint legislative committee on health insurance plans.



By David H. Tarlow, C.P.A.

Senior Partner, D. H. Tarlow & Co.
Hospital Accountants and Auditors, New York City

Q. How long must I work to qualify myself and my family for Social Security benefits?

A. Just how long you will have to work depends upon how old you were in the first six months of 1958 (see table below). Only work covered by Social Security that was done at any time after 1936 is counted.

Age in First Half of 1958	Years Needed
*52 or under	10
54	9
56	8
58	7
60	6
62	5
64	4
65	3½

(*Table based on "normal" retirement age of 65. For woman, time is 1½ years less, but at least 1½ years are necessary.)

Q. We have a 65-bed hospital serving a rural area. Our Board members come from varying distances up to 35 miles. They have requested that I prepare a monthly financial report and send it to them before they come to the monthly Board meeting. Can you advise me as to your experience in other hospitals with respect to a monthly meeting date for the Board?

A. We usually recommend that the meeting be set during the fourth week of the month if the financial and statistical reports for the preceding month are to be reviewed. While income and payroll can be recorded and posted within a few days after the close of the month, we find that invoices from creditors and the related statements are not often on hand before the 12th of the month. Allowing necessary time for posting, checking, and report preparation without undue pressure, we believe any day most convenient to the Board, during the fourth week of the month would, therefore, be most suitable.

Q. I remember reading an article in HOSPITAL TOPICS regarding the possibility of tax free annuities for certain hospital personnel. At present we are attempting to work out a plan for increasing retirement benefits for key personnel. Can you give us any information as to the status of this matter?

A. The Technical Amendments Act of 1958, which was enacted on September 2, 1958, has changed some of the features of this program. Until this year an annuity purchased by a tax-exempt charitable, religious, or educational organization for its employees was not considered income to him until the proceeds were received. This was so whether or not purchased under a qualified plan. As a result, it was possible to do the following: An employee with substantial outside income (e.g., a specialist doing part-time work for a hospital) could take most or all of his compensation from the hospital in a tax-sheltered annuity.

The current amendment limits this practice. Such an employer's payment for the annuity, if the annuity is nonforfeitable and not purchased under a qualified plan, will be present income to the employee to the extent it exceeds his "exclusion allowance." The exclusion allowance is 20% of the employee's current compensation times number of years of service, reduced by amounts contributed tax-free for the employee in prior years. Thus the provision permits purchase of past-service annuities which will be currently tax-free to the extent stated.

Example: An employee is employed by such an organization at a salary of $1,400 in 1957 and $1,500 in 1958. No annuity was purchased for him prior to 1958. In 1958 the employer can contribute up to $600 tax-free, that is 20% of $1,500 (current compensation) times the number of years of service. Note that the fact that the salary was only $1,400 in 1957 is immaterial.

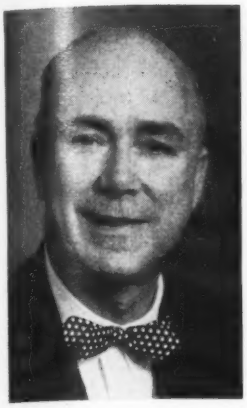
An employee will be taxed on payments on such an annuity under the general annuity rules, except that the spread-back for lump-sum payments will not apply. The employee's cost for this purpose is his contribution, if any, plus the taxable part of the employer's contribution.

Certain of these annuities, to the extent provided by the employer, become eligible for the $5,000 death-benefit exclusion on a parity with the exclusion allowable for benefits from qualified plans; also for the estate-tax exclusion and the new gift tax exclusion.

The new rules apply to taxable years beginning after 1957; the estate-tax exclusion to decedents dying after 1957; and the gift-tax exclusion for calendar 1958 and later.

We would suggest that your board obtain counsel before completing any agreements or contracts in this area.

EDITOR'S NOTE: Mr. Tarlow's column appears in every other issue. Questions from readers are welcomed. They can be sent to HOSPITAL TOPICS at 30 W. Washington St., Chicago 2, Ill., or to Mr. Tarlow at 250 W. 57th St., The Fisk Building, New York 19, N.Y.



Efficient Organization in the Operating Room

By John H. Gorby*

Another in a series on hospital organization, based on lectures given at meetings of the Association of Western Hospitals and allied state groups

• Probably in no other area of the hospital is nursing's responsibility for the welfare of the patient more dramatically highlighted than in the operating room. Here, immediately before, during, and after surgical procedures, the survival of the patient depends to a considerable extent upon the efficiency and effectiveness of the nursing service provided.

UNIT RESPONSIBILITIES

The operating-room nursing unit is responsible for the care of the patient from the time he arrives until the time he returns to the nursing floor. The period includes time under anesthesia up to and including the stay in the operating room immediately after the surgical procedure has been completed.

Among the responsibilities of the nursing unit are:

Making sure that all instruments and linens have been properly sterilized.

Sanitation of the entire suite.

Scheduling operations and maintaining schedules.

Allocating nursing personnel to surgical teams.

Ordering supplies.

All matters relating to smooth work flow and efficient management of the operating room.

Generally the chief of surgery is responsible for methods and technics used in the operating suite. There is some overlapping, however, in that the anesthesiology department is responsible for administration of anesthesia. Consequently, this department is also concerned with treatment and care of the patient from the operating suite to return to his unit.

Definition of responsibilities of operating-room supervisor, surgeon, and anesthesiologist, therefore, is sometimes difficult.

The *operating-room supervisor* usually assigns personnel to the different operating rooms and provides general training for procedures and technics.

The *surgeon* is in complete charge and has complete responsibility for the patient in the operating room. In addition, he is responsible for refinement of procedures and technics in so far as actual surgery is concerned. He exercises detailed supervision and direction of operating-room personnel during the actual surgery.

The *anesthesiologist* supervises nursing personnel during induction of anesthesia and just after the incision is closed.

However, varying situations and conditions inevitably cause variations and shifts of these specific responsibilities.

Staffing the operating-room suite depends on its work load. This can be determined by various factors—time required for preparation of operating room, time of anesthesia (from beginning of anesthesia to incision), operating time (from opening of incision to closing), and operating room cleanup and preparation time (from end of one operation until room is ready for the next).

CLEANUP TIME

Cleanup and preparation time should not average more than 15 to 20 minutes. One large hospital found it could schedule eight additional hours of operating time simply by reducing operating-room cleanup time from 36 to 20 minutes. The saving made it unnecessary to set up an additional operating room.

Operating-room records are helpful in analyzing this problem. A log should be kept of all procedures performed, in consecutive order. This should list such details as time of patient's arrival from nursing unit,

(*Continued on next page*)

*1816 Lincoln Ave., San Diego 3, Calif.

EFFICIENT ORGANIZATION continued

patient's name, names of surgeon, assistant surgeon, and anesthetist, the preoperative diagnosis, the postoperative diagnosis, the anesthesia used, the time the anesthesia was started, the time the incision was made, the time it was closed, the time the patient left, and the time the operating room was ready for the next patient.

NONPROFESSIONAL TASKS

The inexcusable tendency to use graduate nurses on nonprofessional tasks is particularly apparent in operating rooms. This sometimes takes the form of "busy work" designed to keep operating-room personnel from being idle. But there is no need for nurses to measure and cut sutures from spools—not when every size or consistency of prepacked suture can be bought more cheaply than sutures on spools. The cost saving is entirely apart from the saving in the labor of cutting, measuring, and preparing.

Furthermore, non-professional personnel should be used for cleaning instruments, preparing packs, and other duties.

MAXIMUM USE OF ROOMS

The perfect situation exists when operating rooms are constantly occupied except for cleanup time.

There are three chief reasons why hospitals fail to achieve perfection in synchronizing operating-room activities.

(1) Overestimates or underestimates of the amount of time an operation will actually require.

(2) Failure of surgeons and anesthesiologists to keep to their schedules.

(3) Cancellation of scheduled operations at the last minute, for a variety of reasons.

One way to cope with this problem is to demonstrate to medical and administrative staffs how a poorly-synchronized schedule disrupts smooth, efficient functioning, and what its economic impacts are—to say nothing of the personal inconveniences which arise from it. Use of the form below may help to improve the situation.

OPERATING ROOM UTILIZATION FORM

DATE_____ OPERATING ROOM _____

(Complete one form for each operating room each day.)

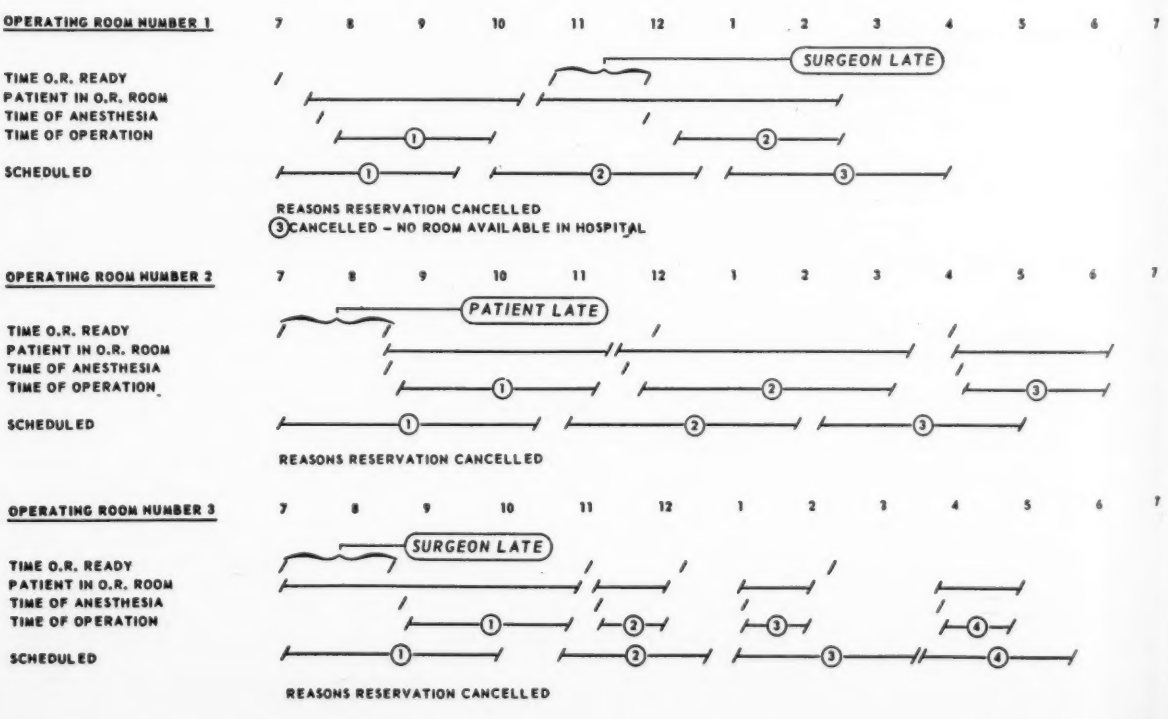
TYPE OF OPERATION	TIME O.R. READY	TIME PATIENT ARRIVES IN O.R. ROOM	TIME OF ANESTHESIA	TIME OF INCISION	TIME ENDED

Such a form makes available information which can be translated into the kind of chart shown below.

With a chart like this, emphasis can be placed on

OPERATING ROOM CONTROL SHEET

DATE FEB. 1ST 1954



such steps as recording all operating-room cancellations caused by admission failures attributable to a bed shortage. Evidence of such failure points up the need for better coordination between admissions and operations. One easy way to achieve this is to set up a direct intercommunication system between the admissions office and the operating-room supervisor.

Of course, there is not much an operating-room supervisor can do about lateness of the surgeon. Nor can she vary patterns of delivery of patients to operating rooms. But she can make the facts avaliable to the chief of staff or to the hospital administrator, either or both of whom have the necessary authority to apply appropriate discipline.

SURGEONS' ESTIMATES

One way to improve surgeons' estimates of the operating-room time they require is to have them state the time needed when they request an operating-room.

A 5 x 8 card can be kept for each surgeon. On it there can be entries for such data as estimated time needed, type of operation, time started, time completed, and actual time of performance. Such a card gives a compact indication of the promptness of each surgeon as well as a check on the accuracy of his estimates. It can be prepared in the following form:

SURGEON'S RECORD CARD

SURGEON Montgomery, Edison G.

TYPE OF OPERATION	TIME STARTED	TIME COMPLETED	SCHEDULED STARTING TIME	ACTUAL TIME OF PERFORMANCE	ESTIMATED TIME
Herniotomy	8:10	9:50	8:00	1:40	1:30
Hysterectomy	1:25	3:50	1:00*	2:25	2:10
Appendectomy	2:35	3:10	2:20	0:35	0:30
Thyroidectomy	8:05	10:45	8:00	2:40	2:30
Closed Reduction – Tibia	12:35	1:55	Emergency	1:20	Emergency

* *Delay not due to surgeon.*

With such information available, the operating-room supervisor can make allowances for the tendencies of various surgeons to over- or under-estimate their time requirements.

Some supervisors find they can work out an average time per operation according to its type and kind as given on these cards. Such information is helpful.

The system should be used with restraint, however. It is not suggested that a stop-watch approach be applied to surgeons performing operations. But careful use of averages and efforts to improve estimates of time will lead to improved utilization of operating rooms.

MINIMUM STANDARDS

Efficient organization in the operating room assumes three basic conditions—an integrated physical area, the existence of standards, and the application of these standards by trained personnel in such a way that there is no appreciable waste of skills, supplies or utilities.

The American College of Surgeons, in its original program of approval of hospitals, established certain minimum standards for the operating-room areas. These standards continue to be definitive. Among other things, they call for the administration of the surgical unit to be under direction of a competent registered nurse with executive ability who is especially trained in operating-room management, with an adequate number of assistants and other personnel to carry on the work of the department.

The surgical division of the medical staff is required to be organized so as to exercise adequate supervision and definite control over the surgery done in the hospital. This presupposes a chief of surgery responsible for general supervision of the professional activities of the department. It also presupposes a tissue committee and a surgical evaluation committee.

Minimum organization, therefore, in a community hospital operating room calls primarily for an oper-

(*Continued on next page*)

ating-room supervisor who should be a skilled registered nurse. Under her immediate direction, for each operating room, there should be a minimum of two registered surgical nurses and as many additional aides, orderlies, licensed vocational nurses, and other nonprofessional personnel as the surgical load of the institution may justify.

Minimum staffing of an operating unit calls for at least three registered nurses with surgical training, one of them classified as the operating-room supervisor.

ROLE OF SUPERVISOR

The exact position occupied by the operating-room supervisor in a hospital's organization chart is a matter on which there are few settled opinions.

One school of thought holds that the operating-room supervisor is an independent department head, comparable to a radiologist or physical therapist, for example, and as such should have equal standing with the director of nurses in so far as administration is concerned.

This school contends that the uniqueness of the operating-room nurses' function makes for a natural separation between it and the general nursing function of the hospital. It is pointed out that there seems to be no valid reason for referring day-to-day problems found in surgery to the nursing office, which, in many cases, is neither equipped to handle nor interested in such matters. For all these reasons, it is felt that better liaison is achieved by giving the operating-room supervisor department-head status.

The other school of thought, which apparently is in the majority, holds that operating-room nursing is simply a specialized branch of nursing and that the operating-room supervisor should be under the director of nurses. Since the nurse in charge of a particular shift is actually the direct representative of the director of nurses and is the senior officer present, it would follow that the operating-room supervisor should probably be responsible to the nurse in charge of the shift.

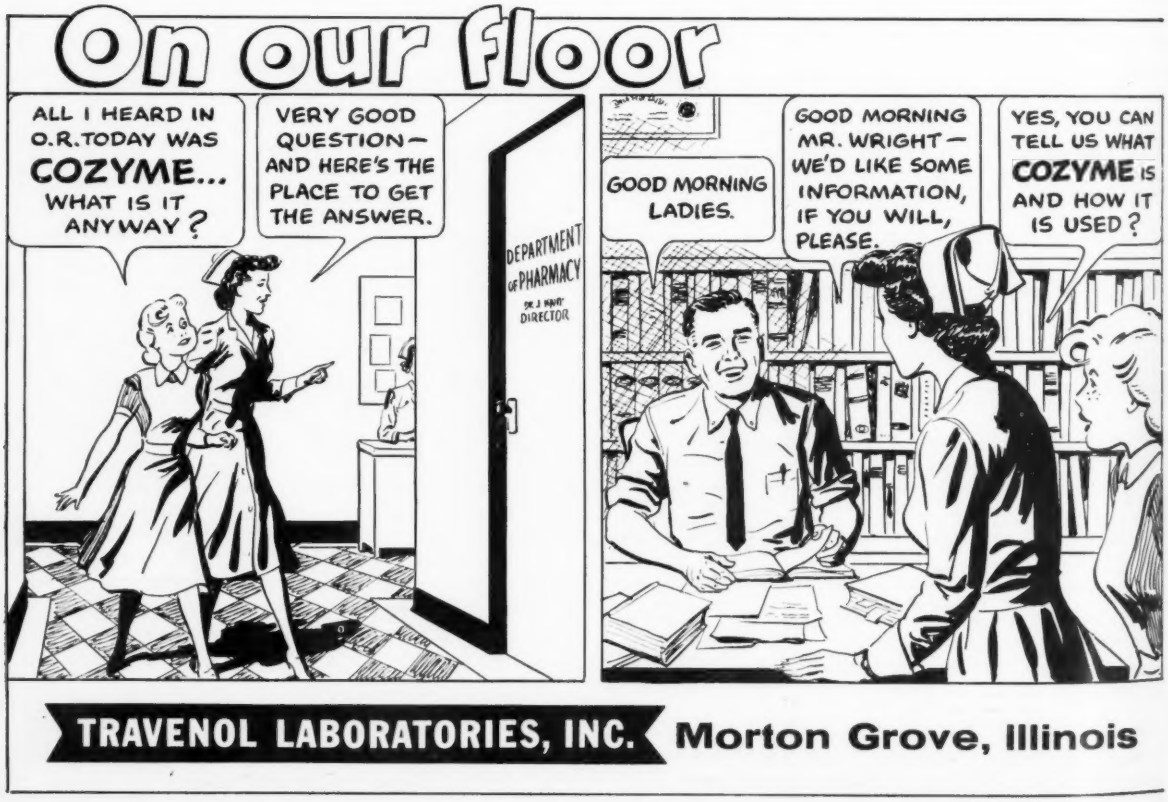
QUALIFICATIONS OF SUPERVISOR

Certain qualities, apart from training and experience, are a must in the operating-room supervisor.

Administrative ability is essential, even though most of those selected as operating-room supervisors are chosen for their demonstrated efficiency as operating-room technicians. Actually, at least 50 per cent of the time of the operating-room supervisor is spent as part of the surgical team. This circumstance makes it impossible for her to do her administrative job effectively.

Except in emergencies, the operating-room supervisor should not participate actively as a member of the operating room team. She should function chiefly as administrator and director, not as an operating-room technician.

Of course, in hospitals with 150 beds or less, or with six nurses or fewer in the operating suite, she may have to participate in surgery.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DEPARTMENT of PHARMACY
DIRECTOR
GOOD MORNING LADIES.
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RESPONSIBILITIES

The responsibility of the operating-room supervisor is to direct and supervise nursing and related activities in the hospital operating room.

This general responsibility involves assignment of staff, instrument setups, layout of tables for various procedures, and consideration of surgeons' requirements in relation to available supplies. The supervisor must prepare general procedures and list requirements of each operating surgeon for each type of operation performed, and make sure that packs are standardized, as well as the draping of the patient for each operation.

By daily reports, daily conferences, or other methods, the supervisor should inform her staff of new procedures, administrative changes, special instruments or sutures required for scheduled operations, and problems in asepsis.

She should have discussions with the operating-room staff on major problems and surgical procedures. She should conduct orientation and inservice training programs to provide good patient care and efficient aid to the surgeons, by insuring observance of aseptic technic and acquainting personnel with proper methods and technics before they participate in operative procedures.

In addition, the operating-room supervisor must always see to it that the operating room is scrupulously clean. She has to coordinate operating-room activities with those of other hospital departments and those of the medical staff.

The operating-room supervisor must cooperate with the purchasing department in the selection of new instruments, supplies, and equipment and in the experimental use of these items. She should participate in formulating administrative personnel policies pertaining to the operating-room area. She has to be responsible for the required records and reports, including work performance.

Administrative and technical supervision over the nursing program of the group, interpretation of operating procedures and policies, and review of work performance of nurses to determine conformance to recognized standards are all responsibilities of the operating-room supervisor.

She must also provide efficient assistance to surgeons and meticulously watch observance of aseptic technics by medical, nursing, and auxiliary personnel. She should investigate and study trends and developments in nursing practices and technics, evaluating their adaptability to the needs of the surgical nursing program. She should develop, devise, and adapt work technics and methods for resolution of unusual or complex nursing problems.

Finally, the operating-room supervisor must actively participate in planning with other department personnel to provide maximum patient care, and assist or direct courses in operating-room technic for student nurses and others.

SCHEDULING

Scheduling of all operations should be done by the

(*Continued on next page*)

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surgical supervisor or by her assistant.

Safeguards are necessary to insure against operations being performed by doctors with no surgical privileges. The surgical supervisor should be provided with a card index file, constantly kept up to date, showing the privileges held by any doctor on the staff who has surgical privileges. If there is any doubt in her mind, the supervisor should notify the administrator or the chief of surgery.

The practice of scheduling certain types of operations on Saturday morning offers definite advantages in terms of occupancy. Occupancy in most hospitals tends to be lower on weekends. Nurses who work on Saturday morning can usually be compensated with time off during light weekday afternoons.

A hospital with over five major operating rooms should be able to assign each operating-room nurse to duty every third Saturday morning, compensating her with two afternoons off during the week following. The system assures sufficient coverage on the Saturday mornings without adding extra nurses.

ANESTHETISTS

In hospitals not employing an anesthetist, responsibility for obtaining an anesthetist may rest with the surgeon, the referring physician, or the operating-room supervisor, depending on personal judgment and policy.

Generally, if the hospital does not maintain its own staff of anesthesiologists or nurse anesthetists, the surgeon obtains the anesthetist. However, many hospitals adopt the procedure of having the surgical supervisor take care of obtaining the anesthetist as soon as the operation is scheduled. She is in closer control of the situation and frequently can use one anesthetist, starting with the first procedure in the morning and continuing throughout the day. Such a system makes maximum use of available personnel, especially if there is a shortage of anesthetists in the area.

ROLE OF NONPROFESSIONALS

Whenever possible, practical nurses, nurses' aides, or orderlies should assume the maximum of subprofessional responsibility in order that the trained surgical nurses may be free to assist the surgeons in the operative work exclusively.

Some hospitals have used successfully the *Surgical Technical Aide Instructor's Manual,* issued by the American Hospital Association. This reviews the subject of training and utilization of surgical technicians in all of its aspects.

SUPPLIES

Among the duties of the operating-room supervisor is direct responsibility for the maintenance of all necessary supplies in her area. However, if sterilization of supplies is done in the central supply room or some other area not under her direct supervision, then it should be the responsibility of that department's supervisor, under policy established by the administration, to insure that safeguards for proper sterilization are employed.

JCAH PREREQUISITES

Under standards required by the Joint Commission on Accreditation of Hospitals, it is deemed essential that, except in an emergency, no major operation shall be performed until the patient has been carefully studied preoperatively, the history and physical examination have been written up, the routine laboratory examinations have been completed and the results put on the chart, preoperative diagnosis has been established and recorded, and proper permits for procedures have been signed, with the necessary witnessing.

The surgeon himself is directly responsible for this record. It should of course be made available to him so that he may complete it without delay, but he has the final responsibility for it.

HAZARDOUS CONDITIONS

The hospital administration has responsibility for operating-room safety. Conductive flooring and other methods of eliminating static hazards are positive requirements and the responsibility of administration.

Regardless of a surgeon's insistence, a hospital should under no circumstances permit the use of an explosive gas for anesthesia under hazardous conditions. There is a direct liability on the hospital in such cases—a liability which cannot be disposed of even through a release by the surgeon. Instructions to the operating-room supervisor covering safety measures related to anesthesia should be based upon principles enunciated in "Recommended Safe Practice for Hospital Operating Rooms," published by the National Fire Protection Association, 60 Batterymarch Place, Boston, Mass.

SPONGE, NEEDLE COUNT

The question of a hospital requirement for a sponge and needle count before closing an incision merits some discussion. It is a consistent rule of law in liability and malpractice cases that if a patient alleges negligence, it is the responsibility of the defendant hospital to show that all steps taken in the operating room were consistent with accepted practice. Sponge-count procedure is well documented in surgical literature.

An additional safeguard is the use of radiopaque sponges. If there is any doubt as to the sponge count or needle count or any other item that has been used in the operation, a patient should be x-rayed immediately.

Good cost procedure requires an adequate and complete accounting of the time spent in the operating room. The operating-room supervisor's report is an effective way of providing it. The form used should contain space for listing of all chargeable supplies used in the surgical procedure. It should indicate the type of surgery performed, the name of the surgeon, the name of the anesthetist, and the name of the assistant.

Thus, the business office will have a completed record of the procedure and will be able not only to change it properly, but also to explain the charge if the patient or his family does not understand it.

Consultant's Corner

By John G. Steinle

Q. How much more would it cost to build a hospital of all private rooms than a hospital of one-third private, one-third 2-bed, and one-third 4-bed rooms?

A. This is a difficult question to answer categorically. There are a number of factors that will affect the answer, for example:

How the toilets are planned. If there is a toilet planned for each room, the private hospital with all private rooms would have 70 percent more toilets.

Whether the hospital is planned with a single or a double corridor.

However, in planning a new 200-bed hospital recently we found that having all private rooms would add about 14 percent to the cost of the building. In this particular instance the study was based on a double corridor plan, with one toilet to each pair of single bed rooms.

Q. In planning an x-ray department that will have an automatic developing unit is it also necessary to provide for a dark room for manual operation or can the dark room housing the automatic unit be used for this purpose?

A. A standby dark room should be provided for manual operation during periods of breakdown and repair of the automatic unit. The dark room housing the automatic equipment cannot be used for manual operations while the equipment is being checked or repaired and the room is lighted.

Q. Is the value of room and board furnished student nurses, interns and residents taxable income in determining whether such students receive more than one half of their support from parents.

A. Some parents have been uncertain as to how to regard the value of such services provided their children, when calculating dependent exemptions. Section 117 of the Internal Revenue Code (1954) has been interpreted to exclude the value of such services provided for dependent students as income. The reasoning is that the "convenience and necessity" of the training institution can only be served when such students are available at all times to perform necessary services incident to their professional education . . . Revenue Ruling 48-338 Internal Revenue Bulletin 28 holds that the services which student nurses perform for hospitals are the only methods by which she can acquire the practical training required for registration, and, therefore, the value of room and board provided the student to assure her constant presence for such training is not compensatory. That this reasoning must extend to cover interns, residents and technological students is patent. It goes without saying, that the foregoing ruling would only apply where the program of the training institution was fully accredited by appropriate boards of registration.

Q. Do you have a general rule of thumb for the amount of space that should be provided for central sterile supply?

A. We have often taken the position that areas should be planned according to function. For example, the space requirements of central sterile supply should be determined after carefully laying out the unit. Some of the factors that must be considered in determining requirements are:

——The work load of the department.

—Are all needles and syringes to be supplied to the nursing areas?

—What trays and packs are to supplied to the nursing areas?

—What disposable items will be used and where they will be stored?

—What solutions will be provided?

—Will gloves be prepared in this area?

—What instrument packs will be prepared in central sterile supply?

——The relationship with other departments.

(*Continued on next page*)

—Will linen packs be folded in the laundry or in central sterile supply? (We strongly recommend that this function be performed in the laundry.)

—Will blanket and mattress sterilization (presumably by gas) be done in a unit of central sterile supply or by housekeeping?

—Will patient packs consisting of bed pan, wash basin, urinal and emesis basin be prepared for each new admission in a unit of central sterile supply?

—The number of shift that central sterile supply will operate.

It is sometimes not feasible to make all of these determinations during early planning. Thus in the pre-schematic stage it is suggested that from five to seven square feet per bed be used in making the preliminary allocation of space for central sterile supply.

Q. Some time ago you stated in your column that a community hospital must plan for water consumption of 150 gallons per bed. Does this requirement still hold?

A. No! Recent studies indicate that water consumption in community hospitals has increased in the last several years. We now recommend that you plan on the basis of 180 gallons per bed.

Q. What size operating room do you recommend for a teaching hospital?

A. We recommend approximately 22′ x 22′. This is somewhat larger than we would propose for a non-teaching hospital. The additional space is necessary to provide for a greater number of assistants and for extensive equipment that is often necessary for the type of operations performed in teaching hospitals.

Q. What are the trends in visiting hours?

A. For the five year period prior to 1958 the trend was distinctly in the direction toward unrestricted visiting hours except for pediatrics and maternity nursing units. In the past year there has been a decided reversal of this trend. This is probably principally due to precautions being taken to reduce infection rates.

Q. In a teaching hospital, what is the average number of x-ray examinations per admission?

A. The average is slightly less than two. In ten teaching hospitals the average was 1.74 per admission. In the same ten teaching hospitals the average increase in work load, from 1945 to 1958, without additional beds, and attributable only to increased demand for x-ray services, was 106 percent.

Q. Do you recommend the use of a punch time clock for employees?

A. In most instances—no. There is always a danger that supervisors will depend upon the time clock instead of exercising direct supervision of personnel. With good supervision, a time clock is not necessary. If an employee is going to cheat, a time clock will not stop him.

Q. Should sterilizers be provided in the autopsy room?

A. Yes. They are necessary as protection for the pathologist and his staff, and as a precaution against contamination of tissue and samples that are removed. The location of the autopsy room may make it difficult to provide steam. In such cases, electric sterilizers are satisfactory.

Q. Where can we get information on an actual situation of a short-term general hospital integrating its services with a nursing-home type of institution?

A. Mount Sinai Hospital, New York City, and the Neustadter Convalescent Center, 12 miles away in Yonkers, have had just such an arrangement for several years. We understand that a report containing a comprehensive evaluation of this relationship (by Thomas P. Weil, M.P.H., and Bernard R. Cohen, M.D.) is scheduled for publication in the near future.

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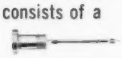

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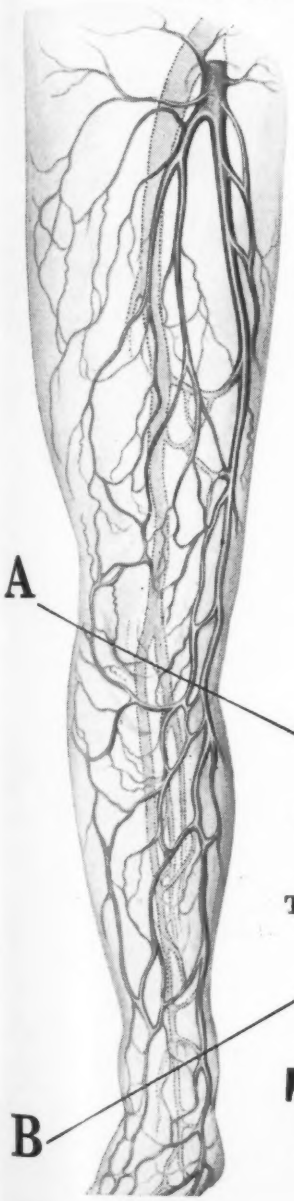
Modern way to combat the fourth largest cause of hospital fatalities

The case for T.E.D. elastic stockings as an improved, low-cost method of leg compression



Pulmonary embolism today ranks fourth in incidence of hospital fatalities (perhaps it would be even higher if the cause of death were not often attributed to the accompanying disease).

Many doctors who recognize compression as a practical, effective solution have up to now depended upon elastic bandages. But these have their drawbacks. A bandage can never be wrapped twice with exactly the same pressure—even when applied by the doctor himself or someone equally skilled.

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Review of Hospital Law Suits

By Leo Parker,
Attorney at Law

• Cannot Exaggerate Benefits

Recently, a higher federal court held clearly that it is unlawful for a drug manufacturer to exaggerate the benefits to be derived from use of his drug product.

For illustration, in Irons v. United States of America, 244 Fed. (2d) 34, the testimony showed the following facts: The government filed suit contending that certain products were misbranded. These products were known as Vit-Ra-Tox 21 A, comprised of raw veal bone, defatted wheat germ, and the concentrate of juices of young, green cereal shoots; and Vit-Ra-Tox 21 B, comprised of garlic derivative, wheat germ, and lecithin as emulsifiers. The government contended that the products were misbranded in that they were represented as a food for special dietary uses by reason of their vitamin and mineral content and the labels failed to bear information concerning the vitamin and mineral properties.

The higher court upheld the government's contentions holding that the labels and advertising matter falsely represented the facts; these suggested that nearly everyone in this country is suffering from malnutrition or is in danger of such suffering because of the demineralization and depletion of soils and the refining and processing of foods, and that the best way to treat, cure, and prevent the diseases would be by using these drugs. The court said:

"It must be remembered that a representation may be 'misleading,' from the very fact of overemphasis and exaggeration."

EXERCISE OF REASONABLE CARE

Recently, I was asked by an official of a large hospital corporation to explain a hospital's legal duties in cleaning snow and ice from hospital steps and walkways. He also wanted to know whether or not a hospital is expected by law to make the premises safe during a storm. Last month a higher court answered these questions.

In Mattson v. St. Luke's Hospital, 89 N. W. (2d) 743, the testimony showed these facts: St. Luke's is operated as a private hospital. On February 19, 1955, at approximately 6:30 p.m., a 57-year-old woman named Mattson left the hospital where she had been visiting her husband. After leaving the hospital by way of the front entrance door, she slipped and fell on the ice-covered steps outside and was injured. This entrance was the only one maintained for public use. She sued St. Luke's Hospital for damages.

During the trial, the testimony proved that the woman entered the hospital at approximately 1 p.m. At this time the steps at the entrance outside the hospital were entirely clean and dry. From 2:35 p.m. until 8:20 p.m., freezing rain and sleet fell almost continuously.

As Mattson left the hospital at 6:30 p.m., she opened the door to the outside and placed one foot on the landing below the top step. Then her feet slipped from under her. She fell on the landing and slid down the steps, incurring the injuries for which she sought to recover.

The testimony showed that at the time of the accident, this entire entrance was icy and slippery. There were no signs of any chemical or abrasive substances on the landing or steps. The icy, slippery condition prevailed on sidewalks and streets throughout the city.

The lower court awarded Mattson $7,000 damages, but the higher court reversed this verdict. It said:

"It is elementary that defendant (St. Luke's Hospital) as the possessor of the hospital premises, was under an affirmative duty to exercise reasonable care in inspecting and maintaining the premises in a reasonably safe condition for the plaintiff (Mattson) . . . The sole issue is what constitutes an exercise of reasonable care as applied to the circumstances of this case. Was the hospital, in the discharge of its duty to use reasonable care, required to keep the steps and landing of its outside entrance free from ice and in a nonslippery condition during the continuance of the storm, or was it permitted, as a matter of law, to await the end of the storm to remove the ice which had accumulated? . . . Since a storm produces slippery conditions as long as it lasts, it would be unreasonable to expect the possessor of the premises (St. Luke's Hospital) to remove the freezing precipitation as it falls. Reasonable care requires only that the St. Luke's Hospital shall remove the ice and snow, or take other appropriate corrective action, within a reasonable time after the storm has abated."

For comparison, see Walker v. Memorial Hospital, 187 Va. 5, 23. In this case the visitor, an older woman, was injured on hospital steps covered with sleet. She sued the hospital charging that the hospital employees should have kept the steps safe, notwithstanding the fact that when she fell the sleet was still falling. She also argued that since the steps were not clean the

(Continued on page 57)

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(*Continued from page 54*)

hospital employees should have warned her of the danger.

The higher court refused to hold the hospital liable in damages and said:

"Where the precipitation is recent or continuous, the duty to remove such obstruction as it forms cannot be imposed, and the dangers arising therefrom are viewed as the normal hazards of life, for which no owner or person in possession of property is held responsible. . . . Since the storm had not finally terminated, the exercise of reasonable care no more required defendant (hospital) to warn of the result of the weather than it did to remedy the result!"

With respect to the normal duty of hospital authorities to remove snow and ice from steps and walkways, the court in Goodman v. Exchange, 331 Pa. 587, 590, stated this law:

"It is only when the hospital having a duty to remove snow and ice, improperly permits an accumulation thereof to remain after a reasonable length of time for removal has elapsed, that liability may arise for the unsafe and dangerous condition thereby created."

LIABILITY IS SURPRISE

Recently, a higher court, in a surprising decision, held that if a hospital, or other employer, pays compensation insurance to dependents of an employee who was injured or killed while performing his regular duties, the hospital may recover the full amount of these payments from a person whose negligence resulted in the death or injury.

In Muskego v. Green, 72 N.W. (2d) 52, it was shown that an employee named White was killed in a collision while driving a truck. The testimony showed that the collision resulted from negligence of Green, who was driving a passenger automobile which collided with the truck. White's employer paid compensation, under the State Workmen's Compensation Act, to his dependents, amounting to $24 a week for 400 weeks, plus $300 for burial expenses. White's employer sued Green to recover this amount.

The higher court held that Green must repay to the employer the amount of compensation the latter had paid to the dependents of the deceased employee.

NEW RECOVERY ROOM STRETCHER CAT. No. RS-100

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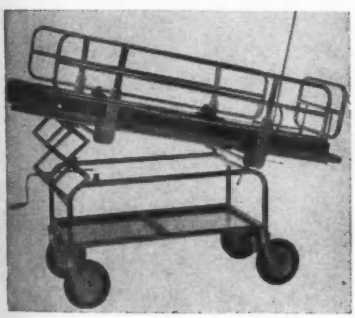

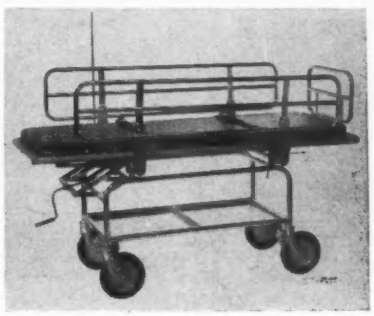

SPECIFICATIONS: (optional)
Length 76½"
Width 29½"
Height 34"

MATTRESS:
25" x 75" x 3"
Foam Rubber.
Cover—(Harco #4626) Conductive.

SAFETY STRAP:
2" Nylon.

SIDE RAILS:
Pratt all position retractable.
Automatic lock any position.
Rails completely out of the way when down.
5 to 6 inches more space available for the patient when using these rails with the conventional size mattress.

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HEAD RAIL: Removable.

CASTERS:
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Conductive. Balloon-tires.

ADJUSTABLE HEAD REST.

IV HANGER: Adjustable.
Can be placed in 8 positions around table.

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FRAME:
1¼" 16 gauge steel tube helio-arc welded. Entire frame Chrome plated. Top stretcher frame reinforced with 1¼" 16 gauge steel tube.

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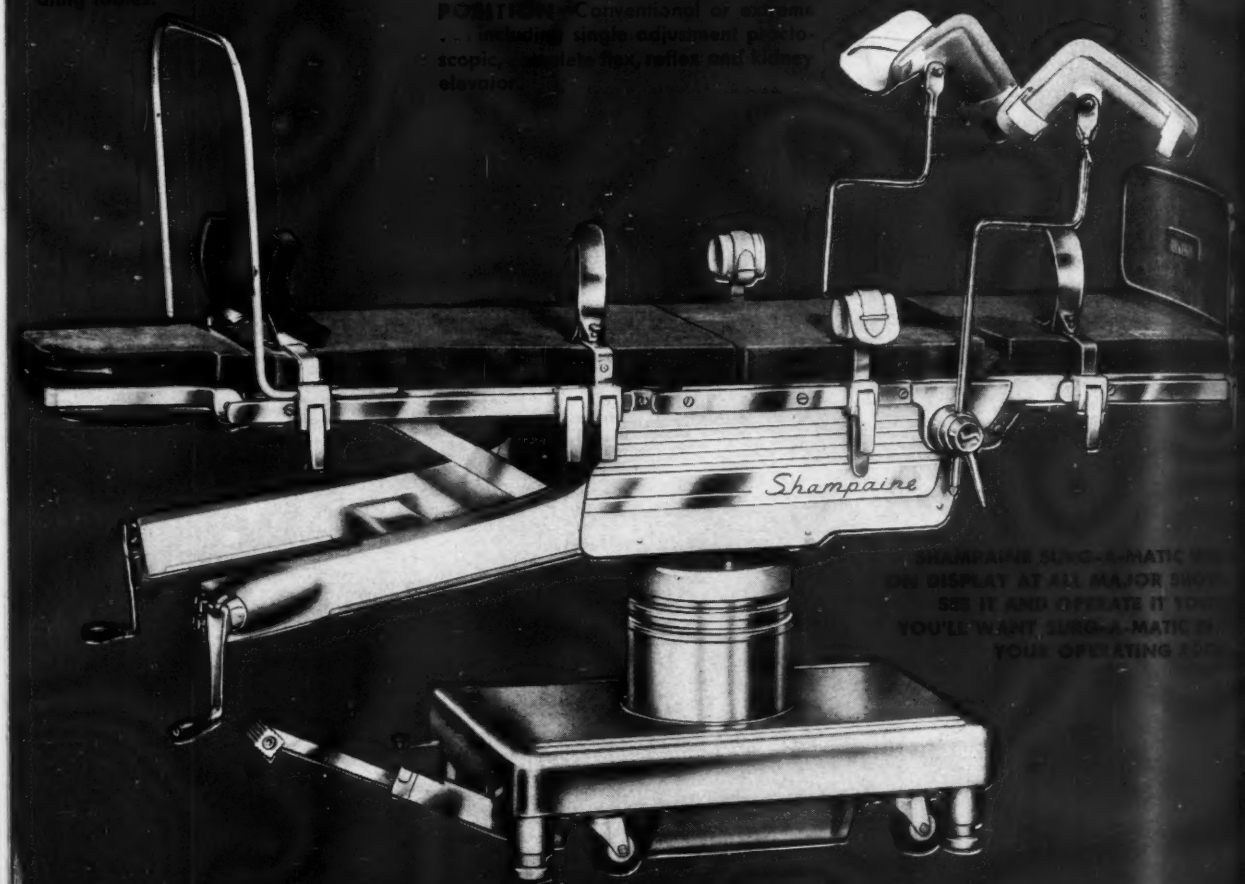
EASY-ACTING SIDERAIL CLAMP—Positive broken or easy-to-clean screws. Accessories attached or detached with minimum effort and [illegible]

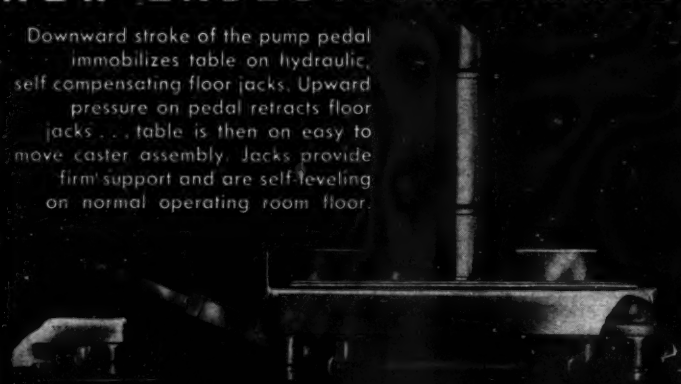


SHAMPAINE SURG-A-MATIC [illegible] ON DISPLAY AT ALL MAJOR SHOWS. SEE IT AND OPERATE IT TODAY. YOU'LL WANT SURG-A-MATIC IN YOUR OPERATING [illegible]

NEW BASES . . . MOTORIZED OR HYDRAULIC

Downward stroke of the pump pedal immobilizes table on hydraulic, self compensating floor jacks. Upward pressure on pedal retracts floor jacks . . . table is then on easy to move caster assembly. Jacks provide firm support and are self-leveling on normal operating room floor.

Motor concealed in base — no external housings. Motor listed with Underwriters Laboratories for Class "1" group "C" atmosphere.



Flat stainless steel shield has integrally formed footrests to eliminate crevices and assure easy cleaning.

the all-new major operating table with push-button shift

SURG-A-MATIC
provides complete 139 degree flex.

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single adjustment telescopic pedestal.

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provides kidney flexion adjustment with push-button shift.

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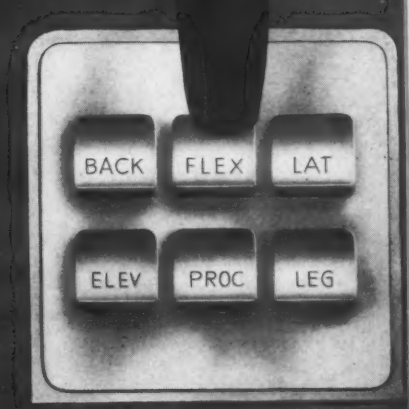
table top height from 27" minimum to 45" maximum.



JUST PUSH A BUTTON AND TURN HANDLE AT RIGHT TO REACH ANY OPERATIVE POSITION. Left hand control independent Trendelenberg adjustments (maximum Trendelenberg 22 turns). See new Shampaine positions at left.

Table top is supported by three widely spaced rods within the telescoping pedestal. They provide maximum lateral support to prevent shaking. Design eliminates need for exposed keyways.

Adjustable length on reversible foot pedal.

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American Model M. E. Sterilizers meet the modern need for large capacity steam sterilization of everything from surgical and obstetrical packs to treatment trays or flasked solutions. They have many specific features which make them easier, faster and more comfortable to use and less costly to maintain.

But the truly exclusive feature of the American M. E. is the integrity of design and manufacture which is summed up in the phrase "made by American Sterilizer." Only from that priceless ingredient can you derive the ultimate in convenience, efficiency and lasting economy.

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Personally Speaking

Walter R. Amesbury—is changing positions at Waltham (Mass.) Hospital. He is resigning as administrator and will then serve the hospital as its treasurer.

George B. Brooks—has been appointed administrator, Noble Hospital, Westfield, Mass. He was formerly assistant administrator.

Carl G. Chambers—has been appointed cost accountant, Duval Medical Center, Jacksonville, Fla. Other appointments include: **Herman W. Gattis,** hospital engineer, and **Mrs. Joan Emery,** associate pharmacist.

Mr. Coberly

L. Wade Coberly—administrator, Davis Memorial Hospital, Elkins, W. Va., has been elected president, West Virginia Hospital Association. **William R. Huff,** Charleston, was re-elected executive secretary.

Mrs. Wilma Cooper—has been named administrator, Fayetteville (Arks.) City Hospital. She succeeds **Ruth Riley, R.N.**

Mrs. Mildred Emery—has been appointed administrator, Sterling County Hospital, Sterling City, Tex. She was previously acting administrator.

Philip J. Hall—has been named assistant administrator, Barberton Citizens Hospital. He succeeds **Edward S. Glavis,** who is now assistant administrator, Methodist Hospital of Southern California, Arcadia. Mr. Hall recently completed his residency in hospital administration at Barberton after attending the graduate school of public health, University of Pittsburgh.

Philip B. Hallen—has been named assistant administrator, Boston Dispensary. He was previously management analyst with the Massachusetts Department of Mental Health.

A. William Hammarstrom—has been appointed purchasing agent, Waterbury (Conn.) Hospital, succeeding the late **John Maxwell.**

Members of New England Assembly planning committee meet to make arrangements for sessions to be held March 23 to 25 at the Statler Hilton Hotel in Boston. From left: William S. Brines, director, Newton-Wellesley Hospital, Newton Lower Falls, Mass.; E. Hampton Decker, administrator, Springfield (Mass.) Hospital; Godfrey Crosby, administrator, Brattleboro (Vt.) Memorial Hospital; and Wesley D. Sprague, associate director, New England Deaconess Hospital, Boston.

C. B. Hardin—has been named administrator, Florida Sanitarium and Hospital, Orlando, succeeding **Leighton T. Hall,** who has become medical secretary and hospital advisor to the Southern Union Conference of the Seventh Day Adventist Church. Mr. Hardin was formerly assistant administrator and purchasing agent. **Robert Trimbler,** formerly house manager, takes over as assistant administrator.

Frederick M. Hovey—has been named assistant director, Roger Williams General Hospital, Providence, R.I. He was formerly with Stamford (Conn.) Hospital.

George Lamb—has been appointed administrator, Sid Peterson Memorial Hospital, Kerrville, Tex., and manager, hospital building. **Mrs. Barbara A. Kent, R.N.,** has been named director of nurses. Mr. Lamb was formerly acting administrator.

George W. Laycock—has been appointed director, Maria Seymour Brooker Memorial, Torrington, Conn. He was previously administrator, Cleveland Memorial Hospital, Shelby, N.C.

Eugene J. Makray—has been appointed assistant administrative director, Caledonian Hospital, New York City. He also retains the position of comptroller.

John A. Maloney—has been appointed administrator, Lawrence County General Hospital, Lawrenceburg, Tenn. He was formerly administrative assistant, Fort Sanders Presbyterian Hospital, Knoxville, Tenn.

Arthur E. Miller—has been appointed director, Salt Lake County General Hospital, Salt Lake City, Utah. His predecessor, **Vernon L. Harris,** who was also administrator, University of Utah Medical Center Hospital, resigned to devote full time to the medical center.

Also, at Salt Lake County, **Mrs. Nelda Chadwick, R.N.,** has been appointed acting director of nursing service. She succeeds **Elaine**

(*Continued on next page*)

PERSONALLY SPEAKING continued

Tew, R.N., who resigned to go to Teacher's College, Columbia University, New York City.

Robert Nordham—has been appointed assistant administrator, Brewster Methodist Hospital, Jacksonville, Fla. He recently completed the program in hospital administration at Duke University Medical Center.

Harlan L. Paine, Jr.—has been appointed administrator, American University Hospital, Beirut, Lebanon. He was previously administrator, Winchester (Mass.) Hospital.

Robert J. Parisi—has been appointed director of purchasing, Norwalk (Conn.) Hospital. He was formerly assistant purchasing agent, Hartford (Conn.) Hospital.

Robert F. Peck—has been appointed assistant director, Research Hospital, Kansas City, Mo.

James Pryor, LL.D.—has been appointed food manager, St. Mary's Infirmary, Galveston, Tex.

Harold W. Salmon — succeeds **Charles A. Lindquist** as administrator, Sherman Hospital, Elgin, Ill. Mr. Lindquist, who has retired, served the hospital since 1930. Mr. Salmon was previously assistant administrator.

Mr. Salmon

Mr. Lindquist

Robert R. Shields—has been named administrator, Williamsburg (Va.) Community Hospital. He was formerly administrator, Stevens Clinic Hospital, Welch, W. Va.

Sister Mary Kevin—has been appointed administrator and superior, Mercy Hospital, Nampa, Ida., where she was previously surgery supervisor. She succeeds Sister **Mary Austin,** who has been transferred to St. John's Hospital, Joplin, Mo.

Armin E. Wagner—has been appointed director of personnel, St. Alexis Hospital, Cleveland, O. He was previously personnel manager, Bunnel Machine & Tool Co., Cleveland.

VA Appointments

Ray Q. Bumgarner—has been appointed manager, VA Center, Dayton, O. He was previously manager, VA Center, Hot Springs, S.D. He succeeds **J. C. Phillips,** who is now manager, VA Hospital, Livermore, Calif.

Robert J. Scott, M.D.—has been

(Continued on page 64)

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FINGER SPLINTS

The Modern Wonder Splint

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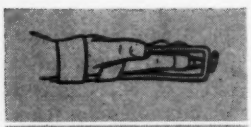

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The Alumafoam Finger Splint is ideal where extension is required. The splint is easy to form into any necessary shape.

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▬ Sterilized, four-ply, gauze-type strips, 5 inch x ½ inch; 18 inch x 2 inch; 36 inch x ½ inch; and 3 yard x 2 inch, pleated in accordion fashion.

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Supplied in individual glass containers.

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PERSONALLY SPEAKING

(*Continued from page 62*)

named manager, VA Hospital, Fort Wayne, Ind. He was previously director of professional services, VA Hospital, Richmond, Va.

New Officers

Sister V. Roberta, administrator, St. Elizabeth's Mercy Hospital, Hutchinson, has been installed as president, Kansas Hospital Convention. Other officers chosen were: **Ivan D. Anderson,** administrator, Newman Memorial County Hospital, Emporia, president-elect; **Corinne Hamilton, R.N.,** administrator, Axtell Christian Hospital, Newton, vice-president; and **Russell H. Miller,** administrator, University of Kansas Medical Center, Kansas City.

* * *

Art Coltrin, administrator, Jane G. Phillips Memorial Hospital, Bartlesville, was installed as president, Oklahoma State Hospital Association. **Tom Carter,** director, Baptist Hospitals of Oklahoma, Oklahoma City, was named president-elect, and **Raymond Crews,** business administrator, University of Oklahoma Medical Center, Oklahoma City, vice-president. **Al Donnell,** administrator, Muskogee General Hospital, Muskogee, was elected secretary, and **James Harvey,** assistant administrator, Hillcrest Medical Center, Tulsa, was re-elected treasurer.

* * *

Adalbert G. Dierks, administrator, Le Bonheur Children's Hospital, Memphis, Tenn., has been elected president, Memphis Hospital Council.

* * *

Frank R. Briggs, administrator, Abbott Hospital, Minneapolis, has been installed as president, Minnesota Hospital Association. His fellow officers are: **Dorothy L. Petsch,** administrator, Worthington Municipal Hospital, Worthington, president-elect; **Harold Mickey,** administrator, Rochester Methodist Hospital, Rochester, 1st vice-president; **Sister Marie de Paul, R.N.,** administrator, St. Joseph's Hospital, St. Paul, 2nd vice-president; and **James W. Stephan,** professor and associate director, course in hospital administration, University of Minnesota, treasurer.

* * *

June Schick, member of the Murphy Medical Center staff, Warsaw, has been appointed vice-president, Northeastern Indiana Hospital Council, to succeed **John Fitzgerald,** who is leaving St. Joseph's Hospital, Fort Wayne.

* * *

T. W. Crowley, administrator, King's Daughters Hospital, Brookhaven, Miss., has been installed as president, Southwest Mississippi Hospital Council. Other officers are **Reagan Long,** administrator, Hardy Wilson Memorial Hospital, Hazlehurst, vice-president, and **Claude Lollar,** administrator, Field Memorial Community Hospital, Centreville, secretary.

Deaths

Ethel Shaw—63, former personnel director, St. Luke's Hospital, Toledo, O., died December 1. She served 18 years at the institution as assistant to the administrator, officer manager, and personnel director.

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and healing agent
for the SKIN of the AGED

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sustained soothing, lubricating, antipruritic—
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rash and excoriation due to

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New S-E Pack keeps dressing sterile from package to patient.
Opens without scissors or string–dressing never touches torn, unsterile edges.

An ingeniously simple wrap now gives you Cover Sponges that remain totally sterile—even during their removal from the package. There's no contact with hands or unsterile edges. Completely aseptic, at a time when strict adherence to aseptic technique is a main line of defense against hospital staphylococcus. 1, 2, 3, et. al.

In addition to much wanted safety, you have the much proven pre-pack efficiency that yields steady dividends in terms of time gained, labor spared and money saved.

For the latest—as well as the safest—in hospital dressings, see Curity.

1. Burnett, W. E.: *Program for Prevention & Eradication of Staphylococcic Infections*, J.A.M.A. 166: 1183-84 (March 8) 1958. 2. Adams, R.: *Prevention of Infections in Hospitals*, Am. J. Nurs. 58:344-48 (March 1958). 3. *Medical Authorities Recommend Ways to Control Infections*, Mod. Hospital 90: March 1958, 51-54.

CURITY Cover Sponges now available in S-E Pack—no additional cost

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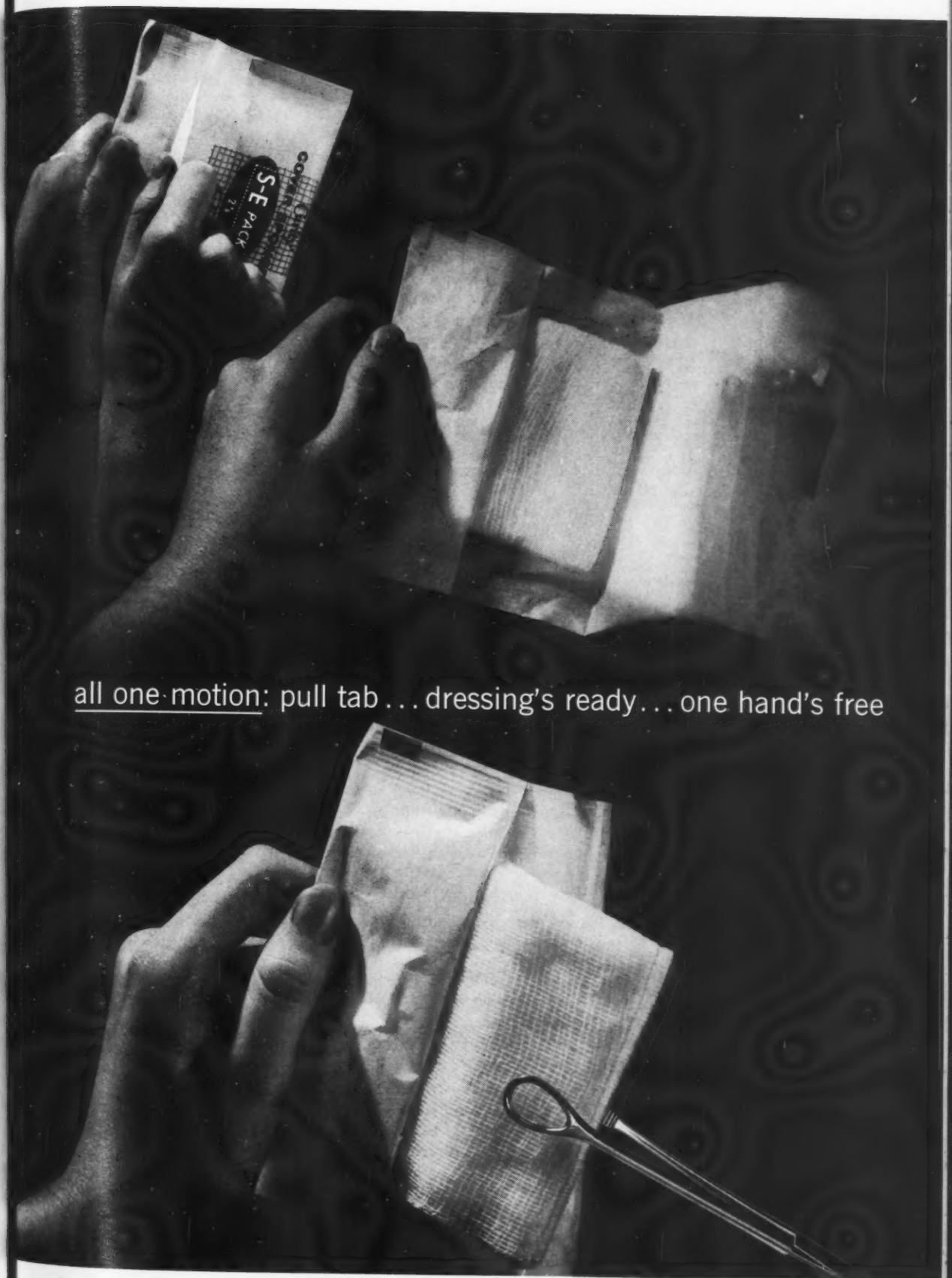
all one-motion: pull tab . . . dressing's ready . . . one hand's free

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EXECUTIVE PERSONNEL: (a) Assistant administrator. 300-bed hospital. To $7,200. (HT-2713). (b) Accountant. Florida. Assist business manager in 150-bed hospital. (HT-2627). (c) Administrative assistant. Work in division of nursing of 375-bed hospital near Boston. $6,000 minimum. (HT-2597). (d) Controller. East 350-bed hospital. New position being established. Cost accounting exp. helpful. (HT-2583).

PHARMACISTS: Chief. Middle West. 225-bed teaching hospital. $550. (HT-2064). (b) Associate professor. Teach pharmacology and Physiology. 12-month contract. Well known college. (HT-2720). (c) Staff. East. 500-bed hospital. $440 minimum. (HT-2543). (d) Chief. Southwest. 125-bed hospital in large city. $550. (HT-2385). (e) South. 85-bed hospital located in small town in very scenic area close to several large cities. To $7,200. (HT-2197).

PHYSICAL THERAPISTS: (a) South. 325-bed hospital in large city near seashore. (HT-2563). (b) California. 400-bed hospital. 20 employees in dept. (HT-2306). (c) Middle West. 300-bed hospital. 3 in dept.; active out patient dept. (HT-2617). (d) Southwest. University student health service. Complete physical therapy facilities. (HT-2323). (e) Chief. Complete charge of new dept. in 200-bed hospital. (HT-2361).

Director of Nurses for 50-bed hospital. New 1951. Salary, $350 to $400.

Operating Room Nurse. Salary, $300 to $350. Write Adm., Crawford Co. Mem. Hospital, Denison, Iowa.

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SCANNING

(Continued from page 7)

For this reason, the importance of disease carried by flies born in refuse and other dangerous bacteria havens is probably slight.

Although flies lay eggs in such places as garbage, manure, and sewage, and the maggots which soon hatch carry tens of millions of bacteria in their systems, Dr. Greenberg found that by the time the larva has formed its hard outer case, it has rid itself of about 90 percent of this bacterial load.

When the fly finally emerges, it carries with it about 1,000 bacteria —500 on its surface and a similar number internally.

While the fly undoubtedly spreads some of these bacteria, it is not as serious a carrier as was earlier believed, according to Dr. Greenberg.

Hypos for Hippos Aid Keepers with Surly Patients

Antibiotics are being "shot" into ailing hippopotamuses and tranquilizers into nervous tigers with Cap-Chur, a new gas-operated rifle.

Cap-Chur looks like a single-barreled shotgun, but its projectile is an aluminum-jacketed hypodermic syringe, with a short needle in its nose and feathers in its tail for steady flight.

When the syringe hits its target the needle pierces the skin and the impact produces enough pressure on the syringe to force the medication through the needle.

After a dose of antibiotics has been delivered, the syringe can be dislocated with a long stick. However, it usually falls off when the animal begins to walk or run.

Ultrasonic Vibrations Effectively Remove Warts

Removal of warts by ultrasonic vibrations has been reported by Herbert Kent, M.D., associate professor of physical medicine, University of Oklahoma.

Dr. Kent, speaking at the American Congress of Physical Medicine and Rehabilitation, said seven of nine persons treated with ultrasound had excellent results. The eighth had good results, and in the ninth the results were questionable.

It still is not known how the warts are affected by the ultrasound, he added. But the treatment advantages are relief from pain, absence of paring, scarring, or destruction of skin tissue, absence of pain in the treatment itself, and that the ultra-sound method can be used on an out-patient basis.

Eating Steak Not Always A Pleasant Experience

A new ailment, called steak house disease, was reported at the Mississippi Valley Medical Society meeting in Chicago. Robert G. Zach, M.D., a radiologist associated with the Monroe (Wisc.) Clinic, said the disturbance apparently is quite common and afflicts about 4 percent of the population.

A ring of fibrous tissue forms just above the point where the esophagus empties into the stomach, narrowing the gullet and pack-

(Continued on page 71)

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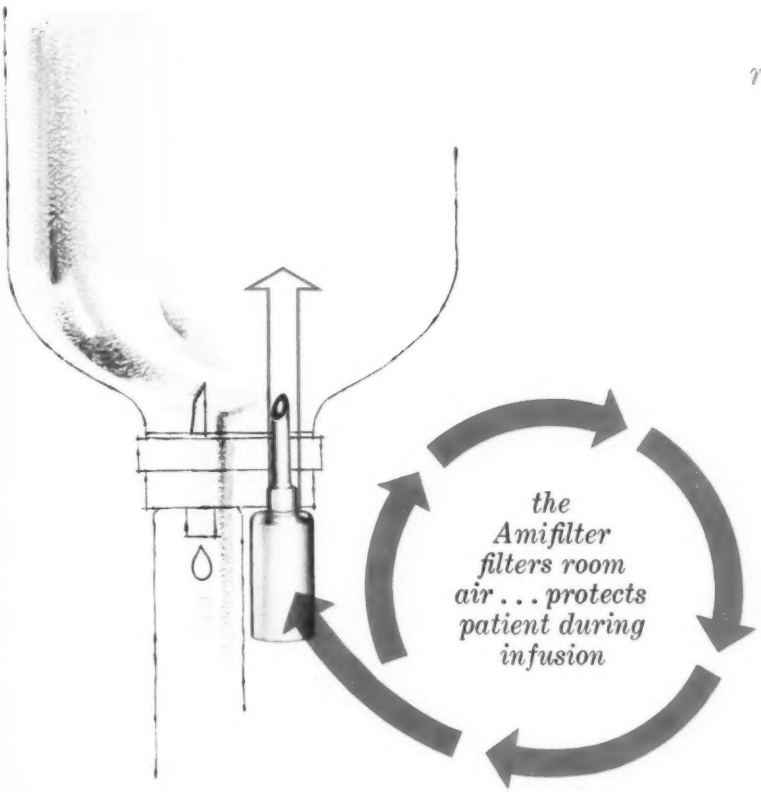

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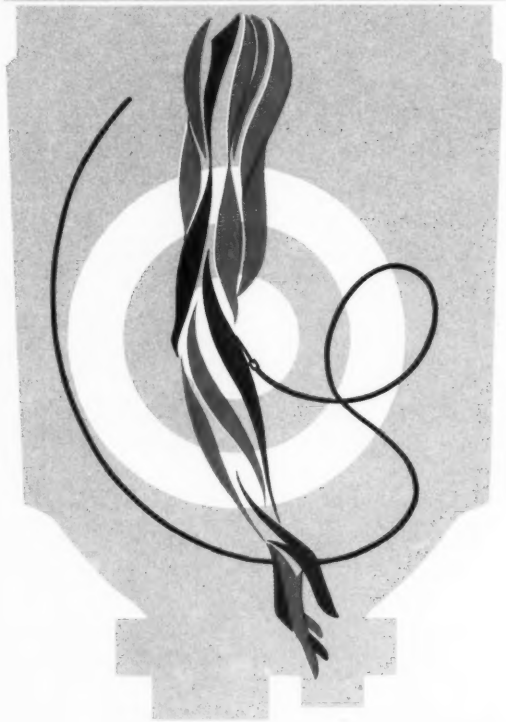

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(Continued from page 68)

ing food at its lower extremity. If large pieces of meat, especially steak, are swallowed under these conditions, the result is intense pain which may frequently be mistaken for a heart attack, cancer, or other chest infection, Dr. Zack said.

He added that it is not known why the constricting rings form.

Man-made Heart Boosts Natural Blood Circulation

Living tissue is being used to fashion a secondary heart which can take over as much as 25 percent of a natural heart's workload. At the recent Congress of the American College of Surgeons, Adrian Kantrowitz, M.D., and William M. P. McKinnon, M.D., Maimonides Hospital, New York City, explained that the man-made heart had so far only been implanted in dogs, but when perfected it might add years to the life of humans afflicted with heart disease.

To fashion the auxiliary heart, a portion of the diaphragm is made into a circle of living tissue and wrapped around the aorta. The transplanted muscle segment is kept intact, with its own blood and nerve supply.

It is stimulated into rhythmic contraction by an electrical signal sent over two silver wires from a tiny radio receiver, which is also implanted inside the chest. Broadcast impulses to the radio receiver—about the diameter of a quarter and 3 inches high—come from a portable transmitter worn outside the body.

This apparatus, in turn, is tied into another piece of electronic equipment that has an electrode attached to the outer skin. It picks up the feeble current generated by the natural heart's own beat.

A timing device synchronizes the two hearts to beat alternately. After the natural heart has pumped blood to the aorta and started its period of momentary rest, the auxiliary heart takes over. It does this by squeezing the aorta to give an added boost in circulating the blood relayed by the real heart.

To Study Possibility Of Identification by Ears

Are ears as distinctive as fingerprints, and might they be used for identification purposes to help eliminate baby mix-ups in hospitals?

Charles P. Warren, an anthropologist at the University of Illinois, is conducting a study to discover the answer.

A special camera will be used to photograph the ears of infants, and follow-up studies will be made years later to see if the pictures could be used in establishing identity.

The U.S. Public Health Service is sponsoring the investigation.

Honeybee Sting Rivals Snakebite in Deadliness

Honeybees, hornets, wasps, and yellow jackets—all equipped with venomous stingers—are more of a menace to life in the U.S. than poisonous snakes, according to Henry M. Parrish, M.D., University of Pittsburgh.

Reporting that honeybees alone are second to rattlesnakes as killers, Dr. Parrish traced 55 deaths in five years to rattlesnake bites and 52 to allergic or anaphylactic reactions in sensitized subjects stung by bees.

Hornets, wasps, and yellow jackets accounted for 30 other deaths. In the same period, all venomous snakes caused 71 deaths. Total score: insects 82, snakes 71.

Bovine Embryo Skin Successful Burn Dressing

The use of bovine embryo skin as a temporary dressing for burns has shown promising results according to Navy scientists. Preliminary studies indicate that the new technic produces no unfavorable allergic reaction, causes little or no contraction or scarring of healed skin, and minimizes nursing and medical follow-up care, since the dressing can be left in place for about eight days.

The dressing appears to stimulate tissue growth and to enhance wound healing, the investigators said.

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100. Cardiac monitor

Pocket-sized Telecor cardiac monitor weighs less than two lbs., has a power supply of only three volts, which is below the maximum allowable in explosive atmospheres. Monitor can be placed in operating room, recovery room, or at the bedside; functional design allows it to stand alone, or hang from the anesthesia or plasma administering equipment. The sound signal may be made audible to the surgical team or to one member only by use of earphone. Burdick Corp., Milton, Wis.

101. Identification band

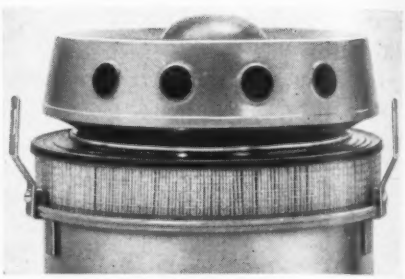
New size Aren identification band has a card large enough to be imprinted with any standard addressograph plate. Thus the hospital using the addressograph system in the admission office and on the floors can coordinate the Aren band, and be certain of positive patient identification. Bands are also available in standard and newborn sizes. Will Ross, Inc., 4285 N. Port Washington Road, Milwaukee 12, Wis.

102. Serum vials

Dade Anti-A and Anti-B serums are now sealed in vials with tamper-proof aluminum caps, insuring fresh, uncontaminated serum, with new droppers that measure a uniform, accurate drop size. Leakproof, seal must be broken to remove screw cap, which subsequently provides tight, sure closure. Scientific Products, 1210 Leon Place, Evanston, Ill.

103. Metal polish

Met-All polish for aluminum, copper, brass, silver, chrome, and pewter, removes dullness due to exposure, dirt, and water stains. Contains no abrasives. Anton Co., 15 Bridge St., New York 4, N. Y.



104. Humidifier

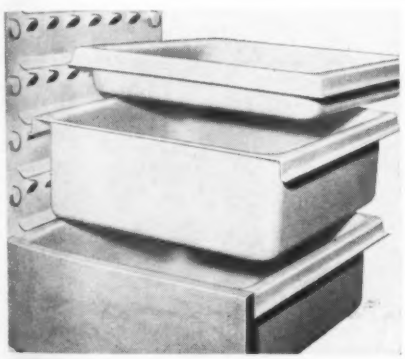
New line of humidifiers incorporates the company's centrifugal atomizer which produces a fine water vapor without heat. Model SF-5, shown, embodies new accordion filter featuring 620 surface areas. The S-5 units evaporate a gallon of water per hour; installation is simple, requiring only water and electrical equipment. Walton Laboratories, Inc., 1186 Grove St., Irvington 11, N. J.

105. Safety containers

Five new containers for liquid gases, liquid dry ice mixtures and cold junction calibrations, can also be used as hot liquid containers or baths for temperatures up to 250° F. Thermotainers are seamless stainless steel tanks covered with foam insulation protected by stainless steel jackets. In 1, 2, 4, 6, and 8-qt. capacities. Labline, Inc., 3070-82 W. Grand Ave., Chicago 22, Ill.

106. Swivel chair

New swivel-lounge chair has a fully upholstered seat, modern barrel-type back, and angled-leg base. Chair turns a full 360°, and thus requires little push-back space. Wide range of upholstery fabrics and variety of wood legs. Shelby Williams Mfg., 2500 W. Ogden Ave., Chicago, Ill.



107. Low-cost storage

Stratapanel is a combination of modular drawers and slide panels molded of high-impact styrene plastic. The slide panel, a thin, strong sheet of plastic with perforated drawer guides, is attached to any firm material such as wood, concrete, or plaster board with adhesive supplied by the manufacturer. Insertion of drawers or shelves completes the unit. Because of the low coefficient of friction, no center slide is needed, and inner frame construction is eliminated. Drawers in standard 17⅛" depth, in heights of 3" to 6", and in five widths from 16 1/16" to 26 1/16", integral pulls or wood fronts. Slide panels are 17 1/8" deep, 24" high. Molded Structures Division, Robert A. Schless & Co., Inc., Elizabethtown, N. Y.

108. Starter

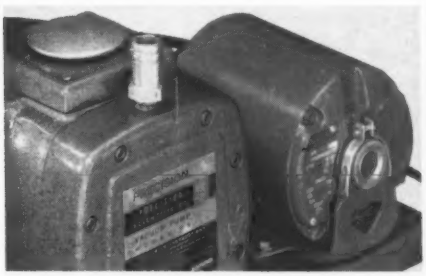
New DuoTron automatic fluorescent starter is quaranteed on a free replacement basis for 100,000 starts or 5 years, whichever expires first. Contains two glow switches instead of one; ceramic instead of paper and wax condensers; plastic vibration absorbing cushions; and silver contact points on the bimetal cut-out switch which prevent pitting and sticking, and provide better conductivity. Nu-Lite Corp., 41 S. Sixth St., Newark 7, N. J.

109. Scrubber

PRO-13 floor and rug scrubber is a new, low-cost 13" machine featuring powerful 1/3 h.p. motor, helical cut gears, adjustable handle, and momentary safety switch. Complete with shower-feed brush. Can be used for polishing, scrubbing, and steel wooling all types of floors as well as shampooing carpets. Hild Floor Machine Co., Inc., 1217 W. Washington Blvd., Chicago 7, Ill.

110. Wheel chair table

Wheel chair table with Masonite or plywood top fits any wheel chair, and is held securely by spring clamps. Adjusts easily to any position within a 9 3/4" raised limit to a 35° tilt; strong enough to support an electric typewriter. Removable 1" sliding aluminum book rest. All adjustment knobs are at the side, and form is cut to fit around the patient. Rehabilitation Products, division of American Hospital Supply Corp., Evanston, Ill.



111. Vacuum pump

Quick starting, quiet operation, easy-to-clean design, vacuum to 0.1 micron, are features of new internal vane two-stage mechanical vacuum pump. With a free air capacity of 75 liters per minute, it is especially designed for use in the laboratory for vacuum ovens, depositing films and coatings, degassing or concentrating liquids, freeze-drying, and distillations. Design also gives particular attention to reduction of oil leakage, free passage of air through oversized ports, an enlarged cored pocket in intake to trap foreign particles and reduce oil back-up. Precision Scientific Co., 3737 W. Cortland St., Chicago 47, Ill.

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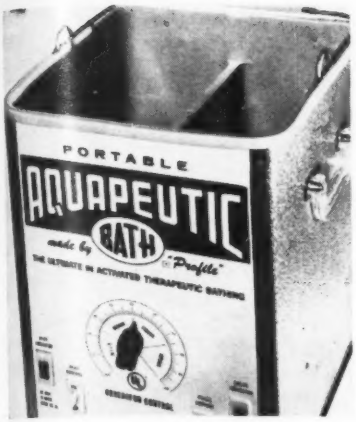
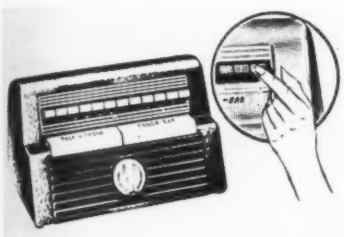


112. Aquapeutic bath

Portable unit for therapeutic bathing does not require nearby source of running water or waste disposal. The 7-lb. textured aluminum bath with plastic liner has one large and two smaller handles to facilitate filling, carrying and emptying. Powerful generator at bottom and center divider transmits regular pulses through the water with no loss of energy. Choice of pulsation frequencies, temperature control and pulse amplitude. Unit uses 118 volts on A.C. current. Resists alkali, acids, and strong solutions, and is easily sterilized. Profile, Inc., 240 Washington St., Northvale, N.J.

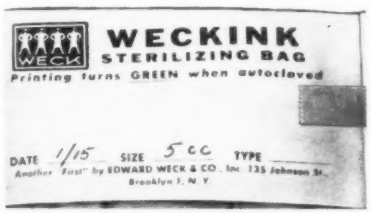


113. Intercom control

New optional dual-purpose feature is designed to enable master stations to answer calls at a distance without operating controls, yet providing fully private operation at the touch of a button. Personnel can answer calls at a distance from master without manually operating any controls; call is automatically directed only to the station calling, assuring privacy. Units may be adapted to individual locations, and can be combined with standard Talk-A-Phone Chief models. Talk-A-Phone Co., 1 N. LaSalle St., Chicago 2, Ill.

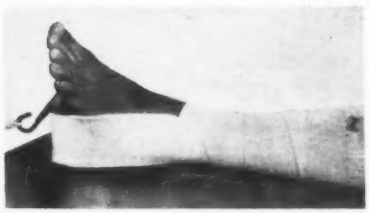
114. Hospital game

A new children's game to help ease children's fear of hospitals is available free of charge to all hospitals of 50 beds or more. The game, consisting of a winding track of spaces, illustrates the child's typical hospital adventure from the admitting office until the return home. Game opens to 12″ x 18″ playing surface; up to four children can play. Rules, number cards and space markers are enclosed in the packet. Helpful suggestions to parents to serve as a guide in preparing children for their hospital experience are printed on the back of the game. Hospital Division, Johnson & Johnson, New Brunswick, N. J.



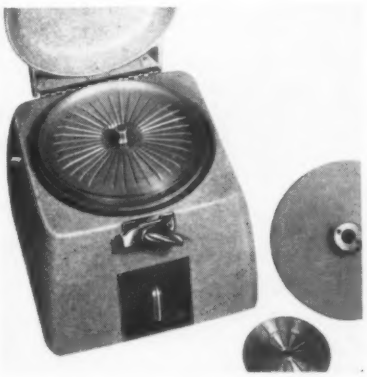
115. Sterilizing bags

Weckink sterilizing bags afford advanced method of packaging syringes, needles, catheters, instruments, surgeons' gloves, and similar items for autoclaving. Guesswork is eliminated by imprinting on bags, which turns green when autoclaved. Exclusive features include water-resistant glue which keeps bags intact during autoclaving; special paper permits complete steam penetration; closure fold gives positive protection against contamination; wet strength paper resists tearing when wet; marking of contents and sizes may be done either on the bags or on Weck Autoclave Tape for sealing. Available in six sizes. Quantity orders may be placed for one size or for assorted sizes. Edward Weck & Co., 135 Johnson St., Brooklyn 1, N. Y.



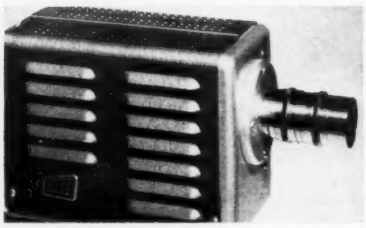
116. Traction strip

Fas-Trac, a self-adhering traction strip is made from Polyurethane foam with a flannel backing coated with a highly non-allergic adhesive. Strong, lightweight, it maintains resiliency, will not crumble. No shaving or skin preparation; no slippage. Provides maximum aireation to skin surfaces while the patient experiences no thermal reaction or irritation. In adult, junior, and infant sizes. Zimmer Manufacturing Co., Warsaw, Ind.



117. Hematocrit centrifuge

New model 31 Hematocrit Centrifuge incorporates ball-bearing motor lubricated for life; an automatic electric brake which stops the unit smoothly in 1½ minutes; and an ultra-sound-proofed cast aluminum housing which gives practically noiseless operation. Two heads are available; one holding 36 standard tubes, the other—a combination head—holding eight tubes and eight 75 mm. x 1.75 mm tubes. Speeds up to 12,000 r.p.m. are obtainable. Cover has safety latch with built-in switch, preventing operation unless cover is closed. A new type Hematocrit reader of plastic with special slide provides easy reading of tubes with the naked eye. Chicago Surgical & Electrical Co., Division of Labline, Inc., 3070-82 W. Grand Ave., Chicago 22, Ill.



118. TV camera

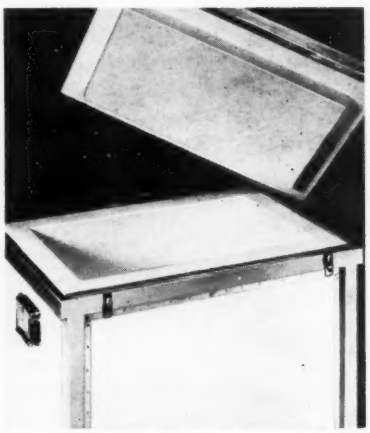
Self-contained, completely automatic television camera accomodates a light range of 120 to 1 with 50% change in video output level, which is equivalent to automatic adjustment of lens stops from f/1.5 to f/16. Also self-adjusts beam, target, and electrical focus circuits to optimum values. Operations which are dangerous, widely separated, or processes which must be observed quickly and often, can be accurately and instantly viewed from one or more monitor locations. Easily installed, unit weighs 10 lbs., is 6 3/4" high, 5 1/8" wide, 11 3/16" long. Dage Television Division, Thompson Products, Inc., Michigan City, Ind.

119. Polyethylene basin

All-purpose Lustro-Ware utility basin is now being molded of high density, boilproof polyethylene. Can be sterilized with boiling water or in automatic dishwashers. Greater rigidity makes for easier handling when filled. Unconditionally guaranteed against breakage; will not rust, dent nor peel; finish is unaffected by disinfectants, bleaches, and cleaning fluids; will not mar surfaces nor snag clothing. Roll rim has hole for hanging. Available in white and colors. Columbus Plastic Products, Inc., 1625 W. Mound St., Columbus 23, Ohio.

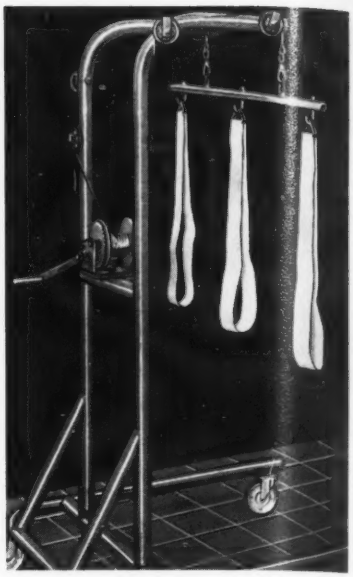
120. Freez-safe

New 5 cu. ft. plastic foam portable frozen food transporter keeps contents solidly frozen for a full 72-hour period by using a small amount of dry ice. The foam insulation core is a one-piece unit weighing 14 lbs.; insulation walls, top and bottom, are 2½" thick; the outside measurements are 28" x 19" x 28". The net cubic inside measurements are 23" x 14" x 23". Designed to carry 175 lbs of frozen foods, it is equally suitable for pharmaceuticals, antibiotics, and other materials demanding low temperature within safe temperature limits. The unit is waterproof, vermin proof, rot proof, and will not mildew. Customer Service Department, Glo-Brite Products of Chicago, 6415 N. California Ave., Chicago 45, Ill.



121. Linear amplifier

Model LA-5 is designed to accept and amplify the pulse output of various radiation detectors, and to deliver them at a level suitable for counting on scalers or count rate meters, or for feeding into single channel or multiple channel pulse height analyzers. The instrument includes a pulse height selector which rejects all pulse below a pre-selected value. Exclusive direct reading microdial for pulse height selector control, which provides more accurate perception than conventional concentric scale types. A switch permits either positive or negative pulses to be taken from the selector output. Technical Associates, 140 W. Providencia Ave., Burbank, Calif.



122. Cadaver lifter

New Cadaver Lifter, designed for easier handling of cadavers which are stored in the conventional two or three tier telescoping rack-type mortuary refrigerators, saves time, manpower, and eliminates unnecessary physical strain. One person can handle a cadaver on admittance to morgue room or when transferring to autopsy table. Operated by a winch with a leverage ratio of 30 to 1, mobile lifter has three straps which wrap around the cadaver, and hook onto a rigid lift bar. All-steel construction with non-corrosive enamel finish; 5" rubber-tired swivel casters for silent mobility. Hospital Division, Market Forge Co., Everett 49, Mass.

123. Mobile dust pan

Featuring a 21" wide, 9" high, and 16" deep collector bin with special floor-hugging lip, mobile dust pan eliminates slow shovel-and-broom methods of sweeping larger floors, cuts to a minimum trips to waste receptacles. Rubber-tired wheel truck for non-tilt mobility, even when fully loaded. When bin is full, the handles are tilted to put wheels into action. Two grip-curved steel tubing handles, braced near the top for extra rigidity, complete the unit. Holding rings for mop and broom storage. G. E. Wheeler Co., 453 Chapel St., New Haven 5, Conn.

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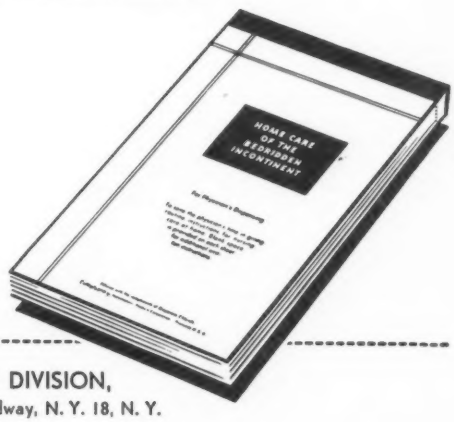

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HOMEMAKERS PRODUCTS DIVISION,
GEO. A. BREON & CO., 1450 Broadway, N. Y. 18, N. Y.

☐ Please send me free nursing instructions for care of my incontinent patients.

☐ Please send 3 dozen 9 oz. Diaparene Dusting Powder, (cornstarch base).

☐ Please send six 1 lb. jars of Diaparene Ointment, (water-miscible).

☐ Please send six 1 lb. jars of Diaparene Peri-Anal, (water-repellent).

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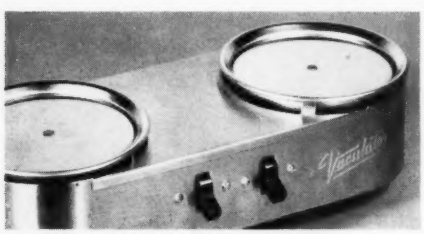
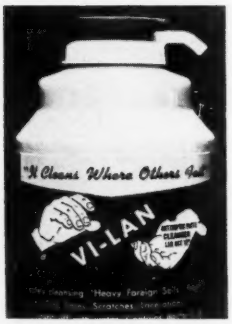
124. Vacuum cleaner

Viking commercial vacuum cleaner, designed especially for dry pickup, comes complete with tools and attachments. Its compact 25" overall height and 21½" width makes for easier storage; its capacity is two-thirds bushel of dirt. The filter, which is entirely enclosed, is equipped with easy-to-remove, reusable paper filter bags. Mounted on four 3" ball-bearing casters, the unit weighs 40 lbs., and operates on 2½ h.p. Lamb AC/DC motors with total 1 h.p. output. The Kent Co., Inc., Canal St., Rome, N. Y.



125. Coffee warmer

New Vaculator coffee warmer is 13½" long, 3½" high, and 5¼" deep. Smaller body size needs only 100 watts per burner to keep coffee hot, while range temperature is 30° F. cooler. Stainless steel range body and element cover plates; rubber non-skid feet; plastic toggle switch which stays cool. Any standard 9 or 12 cup decanters can be used. Hill-Shaw Co., 311 N. Desplaines St., Chicago 6, Ill.

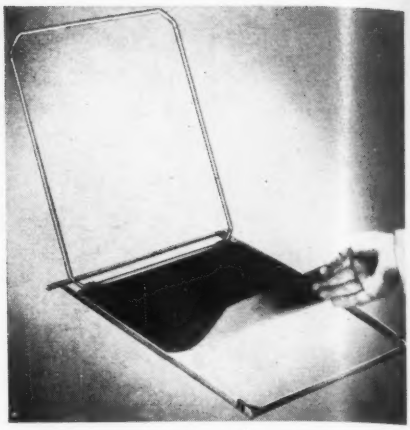


126. Cleanser

Waterless antiseptic paste cleanser safely removes such heavy foreign soils as paint, tar, creosote, asphalt, and rubber cement from cuts, sores, lacerations, burns and suture wounds. Excellent for removing adhesive tape from the skin; easily rinsed off with water. May be used on any part of the body. 12 aerosol cans to case. Dameron Enterprises, Inc., 427 S. 20th St., Louisville 3, Ky.

127. Antiseptic

New Merthiolate spray antiseptic eliminates need for sponges, surgical forceps, applicators. Container is a 6 oz. plastic-coated glass spray bottle, packed 12 to the case, weight 10 lbs. Schuco Industries, Inc., 75 Cliff St., New York 38, New York.

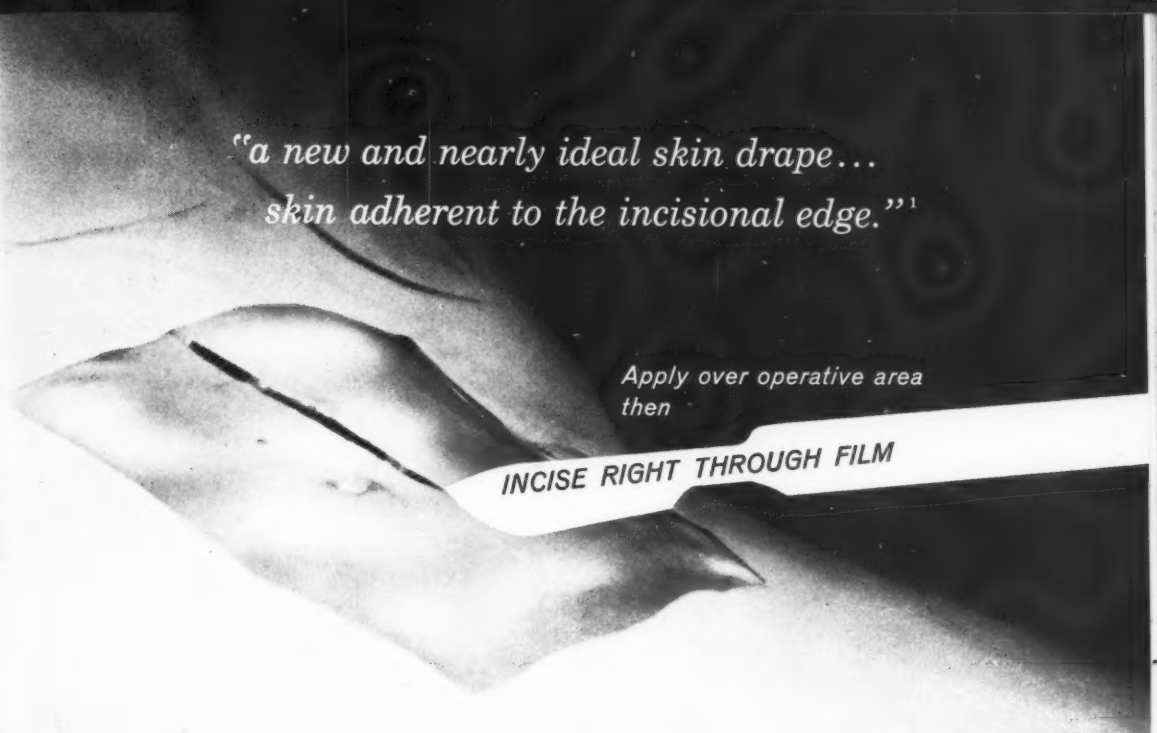


128. X-ray film hanger

New Fasco x-ray film hanger can be opened and closed in seconds with the thumb and forefinger of one hand, making for handling ease and convenience in the darkroom. Of stainless steel, precision hinged to snap the x-ray in place, the hanger has no separate clamps or corner clips. The film positions itself at the required angle, assuring positive alignment. In all standard sizes from 5" x 7" to 14" x 17"; special sizes on order. Stirrup Metal Products Corp., 215 Emmet St., Newark 5, N. J.

129. Suction machine

Battery operated machine handles any hospital suction requirement, both high and low vacuum. Will operate continuously for 10 to 12 hours without recharging; has built-in battery recharger. Works on 110 volt AC. Pratt Hospital Equipment Mfg. Co., 3007 Southwest Drive, Los Angeles 43, Calif.


"a new and nearly ideal skin drape...
skin adherent to the incisional edge."[1]
Apply over operative area
then
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A new aid to aseptic surgery...

Vi-DRAPE® Surgical Film

...completely isolates the patient's skin from the wound and maintains the sterility of the operative site. Skin draping by this method eliminates the use of cumbersome cloth skin towels and towel clips. Nothing used during the operation can touch uncovered skin.

A soft, sterilizable, pliant plastic, Vi-DRAPE Film is adhered to the surgically prepared skin with sterile Vi-HESIVE® Surgical Adherant and *the incision made right through the transparent film.* The adhered film clings closely to wound edges throughout the procedure and is impermeable to bacteria and fluids. Applicable to all contours, Vi-DRAPE Film offers extra advantages in achieving asepsis in previously difficult-to-drape areas.

Use of Vi-DRAPE Film fits easily into established routines of the surgical team. For literature and technic-for-use, write to:

AEROPLAST CORPORATION
420 Dellrose Ave., Dayton 3, Ohio.

Vi-Drape Film and Vi-Hesive Adherant are available through your surgical supply dealer. In Canada, through Fisher and Burpe Ltd.

Patents Pending

1. Adams, Ralph, M. D. : Med. Times, 86:1119-1127 (Sept.) 1958.

Initial clinical studies on Vi-DRAPE Film were conducted by Carl Walter, M.D., Peter Bent Brigham Hospital, Boston.

and for post-op use
AEROPLAST®
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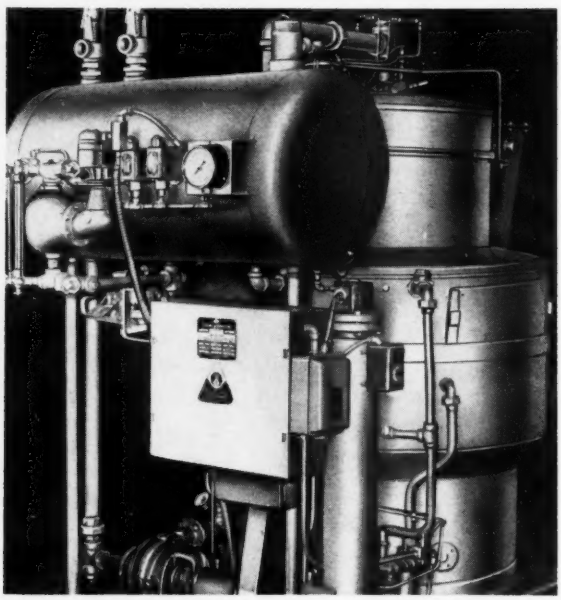


130. Water tube boilers

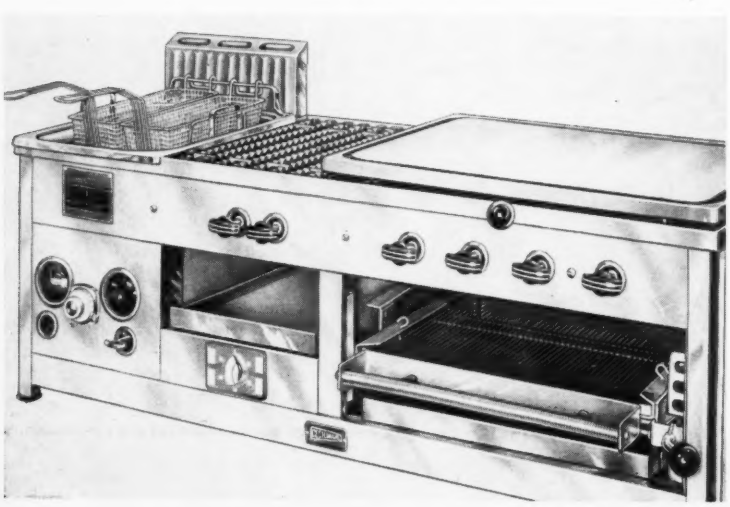
The compact Drum Modulatic boiler, with 150 b.h.p. occupies only 40 square feet. High heat transfer efficiency results in 1.6 sq. ft. of heating surface per boiler horsepower, which means that in many areas it can be operated unattended. Only 50 gals. of water in coils and drums gives working steam five minutes from startup. Simple control and boiler system results in practically maintenance-free operation. Because all parts are replaceable, the boiler is a one-time investment. Units burn oil (No. 2 and No. 5), gas, or combination gas/oil, and are available in six sizes from 20 to 200 b.h.p. Pressures up to 150 psi; up to 1000 psi on request. Vapor Heating Corp., 80 E. Jackson Blvd., Chicago 4, Ill.

131. Dictation machine

New line of fully automatic Scribe magnetic tape dictation machines features a new mike which electronically actuates all operations right from the microphone's handle. Once turned on by a unified push button on-and-off and volume control knob, fingertip action electrically operates the start, stop, rewind, record, play-back, and error correcting controls. The pre-loaded, reusable Scribe Pak contains 30 minutes of dictation time at 3¾ i.p.s. on a 5" reel. For transcribing, the tape movement in either direction is controlled by a two-bar foot pedal. Scribe Distributors Co., Oak Park, Ill.

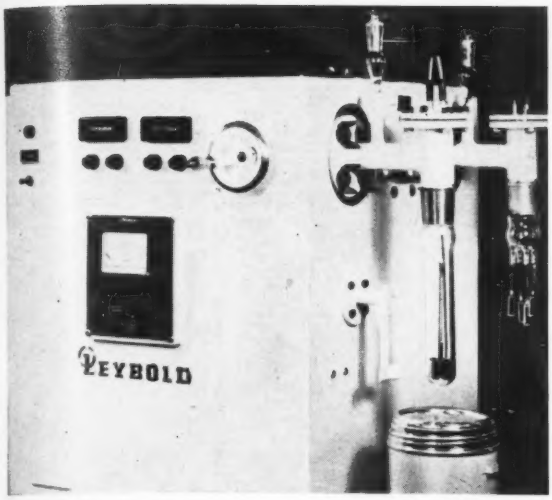
132. Refrigerated cabinet

New MY series is a completely compatible unit that can be integrated into a mix 'n match lineup with all other cabinets in the company's series M line. Featured in the aisle-space-saving cabinets are one-piece stainless steel sliding doors glazed with sealed, twin glass assemblies and vertical fluorescent lighting between each pair of doors. In any combination of stainless steel and white or colored porcelain, in either front operating or pass-through door, and in any combination of sliding and conventional doors. Refrigeration may be remote or self-contained with the Koch drop-in plug. In 2, 3 or 4-section widths with net capacities of 45.5, 70.0, and 92.6 cu. ft. respectively. Koch Refrigerators, Inc., Kansas City, Mo.



133. Fourway cooker

Complete four-way performance—frying, cooking, grilling, and broiling—is combined in new stainless steel unit, so designed that one gas supply provides all cooking function. The entire fueling unit can be removed as a single piece by loosening two wing nuts. Automatic pilot shuts off gas if flame goes out. Robertshaw thermostat touches the bottom of the lift-out fry tank to insure uniform heat. Filter fryer strains out crumbs and particles to keep fat bland and clear. Also available with griddle instead of broiler. Cecilware-Commodore Products Corp., 199 Lafayette St., New York 12, N. Y.

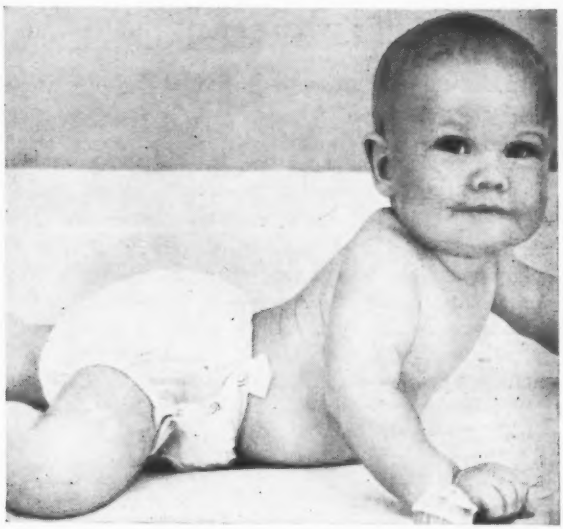


134. Freeze-dryer

Leybold freeze-dryer can remove water vapor directly with two unique pumps, eliminating the need for condensing apparatus or absorbing media in laboratory freeze-drying operations. The unit combines the Leybold rotary gas ballast pump (its oil cannot be contaminated by water vapor or other condensable vapors), and the Leybold high-speed, high-vacuum diffusion pump. Can be used for drying heat-sensitive solutions and solids such as foods, fruit juices, meat, tissues, viruses, serums, plasma, and antibiotics. Arthur S. LaPine and Company, 6001 S. Knox Ave., Chicago 29, Ill.

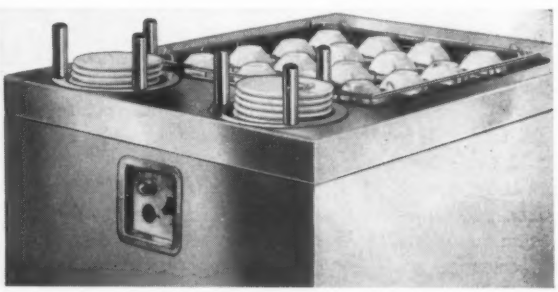
135. Swing-top lids

Convert-A-Drum swing-top lids, which convert empty drums of 15, 30, and 55 gal. capacity into safe, sanitary waste receptacles, are available as part of a complete kit. The kit contains one lid, a can of instant-dry spray-on to refinish the drum, and a burlap bag that hooks inside the drum to prevent corrosive action of waste and to facilitate disposal. Lids, of heavy fire-resistant steel with two free-swinging doors with rust baked green enamel finish, may be obtained as individual units as well as part of the kit. General Scientific Co., Limekiln Pike & Williams Ave., Philadelphia, Pa.



136. Diaper-separates

New Chix diaper-separates consist of a pre-folded gauze diaper, a disposable diaper pad, and a new vinyl panty which may be used together, separately, or in combination with other diaper products. The surgical type gauze diapers stay in place without pins when tucked under the straps inside the panty. The disposable pads are quilted for super-absorbency, and medicated to prevent diaper rash. The panty, of very soft, waterproof vinyl, is boilable. Available in proportioned sizes, the panty has pull-tab and snaps to eliminate the need for pins in all components. Chicopee Mills, Inc., 47 Worth St., New York 13, N. Y.

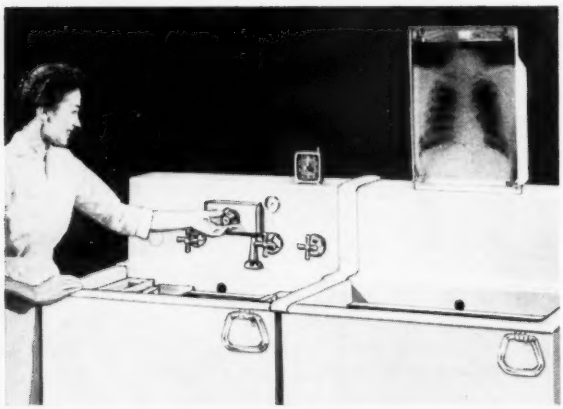


137. Cup and saucer dispenser

Seamless, heliarc-welded, stainless steel cabinets, for better appearance, sturdier construction, and easier cleaning, are featured on mobile, self-leveling cup and saucer dispensers. The mobile AMF lowerator has capacities up to 12 dozen cups and saucers. Cups are automatically heated with preheated air and thermostatically controlled up to 200°. The unit features a tube-dispensing mechanism with one knob-adjustment at the bottom which, once set, will not be accidentally moved. The thermostat knob is located inside the cabinet where it is protected, yet easily accessible when temperature adjustments are desired. American Machine & Foundry Co., 261 Madison Ave., New York 16, N. Y.

138. X-ray processing tanks

New Nocorode master tanks for x-ray processing are of glass-fiber-reinforced polyester resin construction impervious to film-processing solutions, and with a high impact strength and thermal stability. Won't warp or buckle from hot water. Optional preassembled plumbing kit includes thermostatic mixer valve, water volume controls, inlet temperature gauge, wash hose, and vacuum breakers. Available in interchangeable insulated or non-insulated 30" width models for single or multiple installation. Stainless steel solution inserts include a choice of 5, 10, and 20-gal. capacity. X-ray Dept., General Electric Co., 4855 W. Electric Ave., Milwaukee 1, Wis.



139. Drainpipe cleaner

New bacterial drainpipe cleaner especially formulated for septic tanks and cesspools, consists of protein, sugar-starch, and fat-consuming bacteria plus environmental aids which pre-condition the drainpipe to provide maximum working conditions for the bacteria. Non-caustic and safe to handle, Formula FX-5 is applied by mixing a teaspoonful in a cup of cold water and pouring it into the drain. The action of the fat-consuming bacteria changes the fats and greases to harmless soluble liquids; does not permit them to revert to original form and cause stoppage in another part of the drainage system. FX-Lab Co., 77A Okner Parkway, Livingston, N. J.

140. Autopsy table

Designed for ease and convenience in dissection, the Jewett Model D autopsy table is of stainless steel seamless construction. Large radius inside corners, absence of rivets, bolts, and lapped edges, make it easy to clean and maintain. Adjustable rests and supports for positioning subject; ½" faucet with hot and cold water controls with wrist-operated handles; hydro aspirator with automatic vacuum breaker. Jewett Refrigerator Co., Inc., Buffalo 13, N. Y.

141. Automatic entrance

Comes complete with door, frame, and operating mechanism designed as an integral unit. Completely electrical, the system requires no bulky hydraulic or pneumatic actuating device, the entire operating mechanism being contained within the 4½" wide transom bar above the door. Panic exit protection is built in, since manual pressure can overcome the electrical power in either direction. Fingers cannot be mangled between door and frame due to special design; speed cycle precludes the possibility of anyone being hit sharply by the door at the end of its arc. Kawneer Co., Niles, Mich.

142. Hemoglobin test mixture

Drabkin's Dry Mixture is a stable, pre-weighed, dry form of the preparation for determining hemoglobin in human and animal blood by conversion into cyanmethemoglobin. The mixture not only saves the clinician from meticulous weighings, but assures a fresh solution each time, and a greatly reduced cost over ready-bought solutions. Fisher Scientific Co., 717 Forbes St., Pittsburgh 19, Pa.

150. Tape and labels

New 2-color, 16-page catalog illustrates and describes complete line of adhesive and vinyl coated Time tape and labels for positive, quick, accurate identification of cultures, specimens, laboratory ware, instruments, and other items. Over 3,000 imprinted legends for standardizing labeling procedure. Also available unimprinted for pencil, ink, or ball point impressions, or specially imprinted to order. Catalog includes six new labels for animal care, graduated scales, radioactivity research, autoclaving, addressographs, and microscope slides. Professional Tape Co., Inc., 135 Burlington Ave., Riverside, Ill.

151. Drapery fabric

Color booklet with data sheet describes Saranspun's fire resistance; abrasion-resistance and flexibility; fadeproofness; dimensional stability; and mildew, insect, and chemical resistance. Gives cleaning instructions. Color swatches and patterns included. The Georgia Co., Inc., Dept. S, 276 Fifth Ave., New York 1, N.Y.

152. Narda equipment

New 4-page, 2-color catalog gives detailed descriptions of the complete Narda SonBlaster stock line ranging from 35 watt systems up to 2.5 kilowatt systems, and with transducers ranging in capacity from ⅜ gallon to 75 gallons. Sixty systems are described, together with eight generators and 13 transducerized tanks. In addition, submersible transducers are shown, with a number of setups employing them in various power combinations. Narda Ultrasonics Corp., 625 Main St., Westbury, L.I., N.Y.

153. Incubator

Precision-Dubnoff Metabolic Shaking Incubator bulletin no. 603 gives full information of the uses of the unit throughout a wide range of research applications. Explains specific features such as motor governor control, tray suspension, and interchange versatility which permit maximum efficiency even under 24-hour day-in, day-out operation. Precision Scientific Co., 3737 W. Cortland, Chicago, Ill.

154. Relamping plan

Booklet gives detailed information on General Electric's group relamping plan which is based on lamp performance so uniform customers can predict with a high degree of accuracy when the lamps they are using have reached the end of their economic life. It points out that burning a lamp after it has reached the end of its useful life is paying for electric power that is not being converted into light. It costs just as much to operate a dimmed-out lamp as it does to operate a new one. It also spells out the comparatively heavy costs involved in replacing one lamp at a time. Dept. RL-58, Inquiry Bureau, General Electric Co., Nela Park, Cleveland 12, Ohio.

155. Offset printing

Comparative Costs and Savings in a Hospital Print Shop Using Offset Equipment is a manual describing

(*Continued on next page*)

How effective is Blanket Disinfection?

There's little doubt that the hospital blanket which is in such close contact with the patient offers a fertile field for spreading infection. Confirmation by bacteriologic tests usually reveals a surprisingly high count under ordinary blanket use situations.

Efforts to eliminate this reservoir for spreading staph (and other potentially dangerous organisms such as tubercle bacilli) have stimulated controlled studies in many hospitals... and the consequent adoption of routine disinfection of blankets between patients. For example—

In New Hampshire, Adams'[1,2] hospital added Amphyl® disinfectant to routine laundering of blankets as patients changed, or earlier if soiling occurred, with the result that "it renders them routinely sterile" and also "this disinfectant neither shrinks nor discolors blankets."

In Washington, Ravenholt and others[3,4] tested Amphyl for disinfecting hospital blankets heavily contaminated with staph. Their findings indicate that "the addition of a synthetic phenolic disinfectant Amphyl achieves virtual elimination of staphylococci on the blankets. Routine use of the tested disinfectant for washing blankets, pillows, and all laundry materials, as well as for surface disinfection, in a Seattle tuberculosis sanatorium for seven years has demonstrated that the disinfectant does not injure fabrics or other materials nor cause sensitivity reactions in personnel or patients. On the basis of these findings, the synthetic phenol used in these studies appears to be a suitable compound for use in blanket disinfection."

Practical problems of laundry handling as well as the bactericidal and tuberculocidal effects of Amphyl have been considered in these reports. We hope you will find each article helpful in making Amphyl blanket disinfection routine in your own laundry. Also, Lehn & Fink's technical staff is always ready to assist you in strengthening control of cross infection in any area of your hospital. Just write us at 445 Park Avenue, New York 22, N. Y.

We will be glad to send these reprints.

Professional Division
Lehn & Fink Products Corporation

1. Adams, Ralph: Med. Times, 86:1119-1127 (Sept.) 1958.
2. Adams, Ralph: Resident Physician, 4:112-132 (Sept.) 1958.
3. Ravenholt, Otto H., and others: Hospitals, 32:75-80 (June 16) 1958.
4. Ravenholt, Otto H., and others: Med. Bull. U. of Minn. 29:421-429 (May 1) 1958.

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the experiences of one hospital in setting up its own shop to print forms, envelopes, letterheads, invoices, and other stationery items. Samples of the forms, together with representative cost saving figures, are included. Address J. H. Labinski, Purchasing Director, St. Francis Hospital, 3237 S. 16th St., Milwaukee 15, Wis.

156. Hospital casters

Eight-page *Hospital Caster Catalog* pictures and describes electrically conductive casters for minimizing static explosion hazards. Also shown are bed bumpers and wheel brakes, furniture cups, and crutch tips. Faultless Caster Corp., Evansville 7, Ind.

157. Lab equipment

Looseleaf-bound, leatherette-covered, 180-page catalog 5-B gives complete information on company's expanded line of metal laboratory equipment. Divided by groups as follows: center tables, wall tables, chemists and microscope desks, titration tables, specialized industrial equipment, darkroom and developing tables, drying equipment, modulab equipment, interchangeable units, fume hoods for chemical and airconditioning requirements as well as radioactive materials, storage cabinets, sinks and drainboard units, and accompanying fixtures and accessories. Metalab Equipment Co., Division of Norbute Corp., 214 Duffy Ave., Hicksville, L.I., N.Y.

158. Roof ventilators

Complete information on two new power roof ventilators is contained in Bulletin 2301-S. The new units, sizes 423 and 483, are said to have scientific air-flow design which not only makes them efficient for ventilating large spaces, but extremely quiet in operation. Each unit's housing is fully weatherproofed; fans used are Ilg direct-connected, propellor types which feature low starting torque. Ilg Electric Ventilating Co., 2850 N. Pulaski Road, Chicago 41, Ill.

159. Hot water generators

Revised specification sheets devote a separate section to hot water generators. Each of the 10 hot water models is given a complete page, with full description and specifications, and an engineer's drawing as well as a conventional picture. Cyclotherm, division of National-U.S. Radiator Corp., Oswego, N.Y.

160. Planned lubrication

Keystone Planned Lubrication provides a pre-tested, pre-established list of correct lubricants for a number of specific types of equipment operating under normal conditions of speed and temperature. The 20-page, two-color bulletin, the result of hundreds of plant surveys, lists products together with uses, benefits, characteristics, densities, specifications, and container sizes. Keystone Lubricating Co., 3100 N. 21st St., Philadelphia 30, Pa.

161. Soaps, detergents

The new edition of the *Soap and Detergent Buying Guide* is off the press. The 3-color, pocket-sized booklet gives complete information on Colgate line of soap and synthetic detergents. Listed are more than 40 products. Associated Products Dept., Colgate-Palmolive Co., 300 Park Ave., New York 22, N.Y.

for many of your patients

extra nourishment is a basic need

From pediatrics to geriatrics Ovaltine provides a rich source of the vitamins, minerals and other essential food elements required for the maintenance of a good nutritional state.

Ovaltine is a nourishing, well-tolerated beverage combining natural blandness with good taste. It produces a soothing and relaxing effect for the tense and nervous patient, particularly when taken at bedtime.

It is ideal where stimulating beverages should be avoided . . . ideal as nutritional fortification for patients on bland diets. . . and also to help maintain a satisfactory nutritional level during physiologic stress.

Three servings of Ovaltine and milk provide:

12 Vitamins		13 Minerals	
*Vitamin A	4000 I.U.	including Calcium,* Phosphorus and Iron.*	
*Vitamin D	420 I.U.	CARBOHYDRATE	65 Gm.
*Ascorbic acid	37.0 mg.	*PROTEIN	32 Gm.
*Thiamine	1.2 mg.	FAT	30 Gm.
*Riboflavin	2.0 mg.		
Pyridoxine	0.5 mg.		
Vitamin B_{12}	5.0 mcg.		
Pantothenic acid	3.0 mg.		
*Niacin	10.0 mg.		
Folic acid	0.05 mg.		
Choline	200 mg.		
Biotin	0.03 mg.		

*Nutrients for which daily dietary allowances are recommended by the National Research Council.

A jar of Ovaltine will be sent for your personal use on request.

Ovaltine® *for extra nourishment*

The Wander Company, Villa Park, Ill.

Pelton & Crane

SOUNDS A NEW HIGH NOTE IN ULTRASONIC CLEANING

THE PEL-SONIC WASHER & DRYER

Following months of an intensive research and development program, Pelton & Crane announces the new **PEL-SONIC WASHER & DRYER** for hospital use ... at a fraction of the cost of similar equipment.

With the **PEL-SONIC WASHER & DRYER,** small utensils, instruments, glassware become microscopically clean, ready for sterilization *in just minutes.* Ultrasonic energy is generated by passing alternating current through transducers of barium titanate, which then direct sound waves into the liquid detergent bath. No water cooling is required, hence no plumbing connection ... and no special wiring. As sound waves travel through the solution, cavitation sets in, literally cleaning contaminated areas with fierce, agitated action ... yet ultrasonic action is completely gentle and safe, even to the most delicate surfaces. And instruments emerge spotless ... stainless.

The **PEL-SONIC WASHER & DRYER** save you space. Made of stainless steel, each unit measures a compact 18 x 21" – completely portable, ready for use anywhere throughout the hospital. The instrument basket is roomy enough to hold more than 100 instruments at a time ... including sponge forceps, hemostats, needle forceps, syringes.

Anyone can learn the easy-to-operate controls quickly. Add one ounce of **PEL-SOL SURGICAL DETERGENT** to a gallon of water, turn on switch, insert basket and set the automatic timer ... from 5 to 10 minutes, depending on the degree of contamination.

For continuous best results, always use **PEL-SOL,** a guaranteed blood and pus solvent, the recommended detergent for the **PEL-SONIC WASHER & DRYER. PEL-SOL** solution is reusable – for repeated cleanings. You change it manually, only when the solution becomes cloudy. Order it from your surgical supply dealer. **A TIME, MONEY & LABOR SAVING ADVANCE!**

The **PEL-SONIC WASHER & DRYER** belong in all modern hospitals. They will pay for themselves in a few weeks in extra time available to personnel.

USE THE COUPON BELOW FOR FREE DESCRIPTIVE LITERATURE OR A DEMONSTRATION

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I am interested in the new PEL-SONIC WASHER & DRYER.

☐ Please send me descriptive material.

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CITY..... **STATE**.....

The Pharmacy

The Role of the Therapeutic Committee

by Edward S. Koziol, M.D.*

The role of a therapeutic committee may be categorically stated in one sentence: the protection of the hospital, the physician and, most important of all, the patient.

The protection of the patient has been in a much more searching spotlight in recent years. R. Crawford Morris, an attorney from Cleveland, writing in the *Journal of the American Medical Association* of March 23, 1957, makes these statements from the *Newsweek* issue of July 11, 1955: "There are 5,000 new malpractice suits being tried yearly with thousands of others settled out of court. Since 1950, one out of every 35 doctors insured by the New York State Medical Group plan has been sued for malpractice."

Mr. Morris continues: "In the District of Columbia, 115 cases of malpractice are pending. The situation is so desperate that doctors have found that all group insurance has been withdrawn from them. Statistics in past suits show that only one out of every eight cases involved any voluntary negligence. Still, the doctor loses one out of every four cases. The verdicts are even more alarming. In recent cases, a San Francisco jury returned a malpractice verdict in the sum of $250,000; a San Diego jury, $210,000; Tennessee, $200,000; a federal jury, $123,000; and a Texas jury, over $97,000."

Louis Roddie, M.D., and retired Navy Captain, writing in the *Military Surgeon* of December, 1954, cites the following as the 10 greatest advances in medicine, in their order of importance:

1. Discovery of bacteria as the cause of disease, 1865.
2. Discovery of small pox vaccine, 1798.
3. Discovery of the circulation of the blood, 1628.
4. Discovery of anaesthesia, 1842.
5. Discovery of x-ray, 1895.
6. Discovery of insects and parasites as causes of disease, 1879.
7. Use of ligature to control hemorrhage, 16th century.
8. Conquest of scurvy, 1749.
9. Discovery of the stethoscope, 1819.
10. Discovery of sulfonomides, antibiotics, and other modern drugs, from 1932 to the present.

It is the tenth point that concerns doctors and pharmacists. The vast per cent of the prescriptions that the modern hospital pharmacist fills were unknown a decade ago; newer drugs having fewer side reactions or greater therapeutic efficacy supplant others daily.

The physician has at his hand medicines of great potential therapeutic power. The hospital pharmacist must be especially alert to the inherent dangers of a therapeutic agent, and warn physicians of the toxic manifestations. Diarrhea, skin rashes, allergic disorders, gastrointestinal complaints, duodenal ulcers, bladder dysfunctions, lupuslike syndromes, arthritic manifestations, jaundice, and psychoses are but some of these manifestations of iatrogenic diseases which often only confuse the clinical picture, and render the patient more morbid with medication than he was with the original disease state.

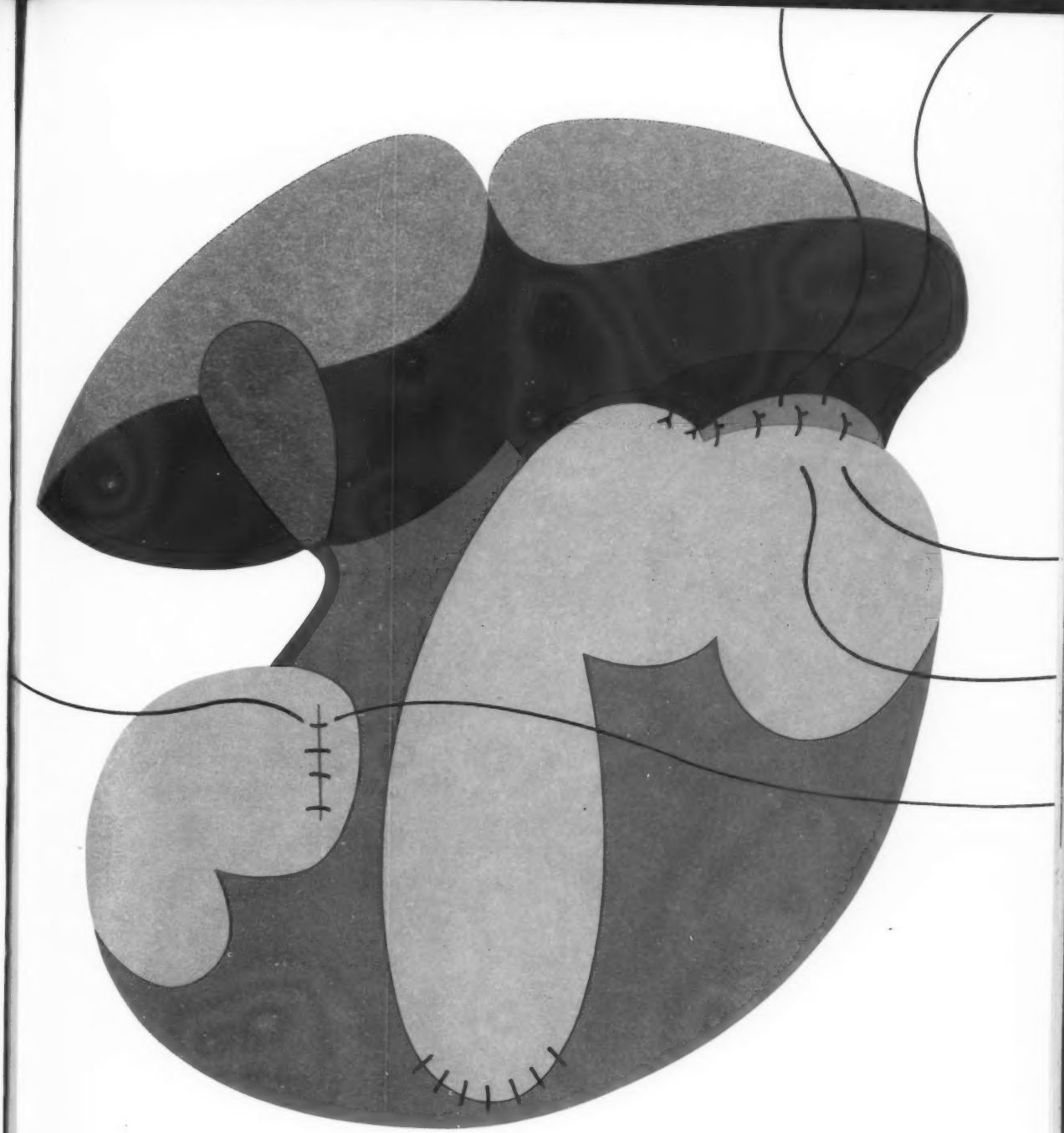
Too frequently, the doctor uses a therapeutic sledge hammer to drive a little medical tack. To illustrate, the asymptomatic hypertensive state of older people responds just as well with little or no medication at all as with some of the more vigorous and toxic agents. Most rheumatologists rarely use Cortisone and ACTH for their arthritic cases. They resort to special exercises, rest of certain joints, physiotherapy and aspirin.

Rather than outline specific duties of the pharmacy, which has been done in numerous articles, I will outline the approach and accomplishments of our therapeutic committee at the Queen of Angels Hospital, Los Angeles, during the past year.

In the broadest terms, we function as a liaison group between the hospital, the staff, and the drug houses through their detail men. It is difficult for the chief pharmacist to present a problem to the staff, especially to individual physicians for an irregular procedure. Then too, the staff physician may feel that he has a complaint concerning the pharmacy. It is far easier for him to present his gripe to a fellow physician over a cup of coffee, allowing the chairman to weigh both sides and, if necessary, to put the problem on the agenda at the next committee meeting. Most grievances arise from a misunderstanding, and too many of us take an emotional approach instead of getting, and weighing, the facts and figures. Too, the

(*Continued on page 89*)

*Queen of Angels Hospital, Los Angeles, Calif.



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(Continued from page 86)

average drug manufacturer's representative, unless he happens to be a pharmacist, would just as soon discuss some of his problems concerning his products with the therapeutic committee chairman in addition to the pharmacists. After all, he doesn't dare be too argumentative with the chief pharmacist.

The selection of our committee rested with the chief pharmacist and me. At the present time, a general surgeon, an OB-Gyn man, a pediatrician, a urologist and I constitute a five-physician committee representing the department of medicine; the chief pharmacist is the sixth member.

Our largest single project of the year was the revising of the hospital formulary. To facilitate this problem of revision, each member received an assignment of several pages to review, and from which to make recommendations. At the next meeting, his suggestions were studied and acted upon for deletion of old drugs and the addition of new ones. At the same time, other members voiced their opinions concerning any changes they might have in mind. We also invited department heads who had no representation on our committee to attend our meetings on formulary revisions. These specialists frequently prescribed medicaments not commonly ordered by the standing committee.

This revision not only presented us with a stupendous task, but made us more aware of that of the drug manufacturer, who must formulate new combinations of old products or duplications of competitors' products.

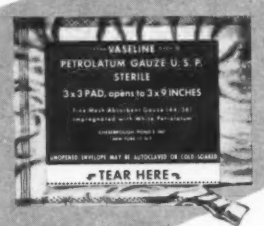
Let me give you an example of the latter. A certain pharmaceutical house took three USP drugs, gave it a good selling name, and obtained a bread and butter product for its line.

Each year they issue a new product, combining their breadwinner with another standard drug, so that they now have 12 preparations that have spawned from the original medication. What is new about these other eleven? Actually nothing, except the space they occupy on your shelves, and your investment as shown by inventory. So when a detail man approaches us with a new product, my first question is: "Is this really something new, or is it a 'Me too' product?"

Another project we undertook was the discussion of the prescriptions that are brought in by patients from pharmacies outside the hospital. They created a problem for us, and we discouraged the practice for sound reason. Often, a physician uses expensive therapeutic agents on an ambulatory or home-confined basis. Should the results not measure up to expectations, the patient may be hospitalized with a continuation of his own medication. Occasionally, an urgent need does arise to identify the prescription from the outside pharmacy—often when it is closed. Our recommendation concerning such prescriptions was that they be labeled with proper identification

(Continued on next page)

The NEW DUAL PURPOSE



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and registered when the patient was admitted, for the dual protection of both the physician and the patient.

The pharmacy has instituted a courier system for scheduled delivery of prescriptions and drug supplies to the various nursing stations. With each delivery, new orders are picked up and turned over to the pharmacy crew to complete for the next delivery. This procedure has expedited supplies reaching the floors, has lessened congestion about the pharmacy window, and has released the aides to do more important floor work. Emergency drugs which are not immediately available on the floor must still be called for by special messenger or by the dumbwaiter.

We have delegated the responsibility of the intravenous nurses to the chief resident in medicine, with the final authority vested in our therapeutic committee. Previously, these nurses were confused as to the extent of their authority about which I.V. solution they could start.

The chairman of one of our important hospital departments started a procedure which we of the pharmacy committee felt was contrary to sound practice. His contention was that all intravenous solutions for alimentation and electrolyte balance should be stored and dispensed in the central supply department by the nurses and their aides, and not from the pharmacy. Wishing to have the final and authoritative word, we referred this problem to the executive secretary of the California Pharmacy Association who, in turn, presented it to the Attorney General of the State of California for a ruling.

Strangely enough, the law had never been clearly defined. The attorney general rules in our favor, stating that all USP drugs and solutions must be dispensed through a registered pharmacist.

The committee also arranged to have a complete drawer of emergency drugs for almost any occasion in each nursing station, and it is the responsibility of the chief nurse to replenish material as it is used.

A night locker with various tablets, capsules and ampules has been stocked in the central supply room to be used as a service point during the night or when the pharmacy is closed. A cabinet in the pharmacy is also stocked with additional drugs, and the keys to it are carried by the night supervisor and her assistant.

Next, we instituted an automatic 48-hour cessation of all narcotic orders. It is surprising how often there is a continuation of narcotics without the attending physician's awareness.

Another accomplishment was the redesigning of the physician's order sheets for the patient's hospital charts. Our previous sheets, with five spaces to the inch, must have been designed when penmanship was taught as an art. Our four spaces to the inch allows for easier writing and readibility.

(*Continued on page* 92)

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You win, too, with Everest & Jennings chairs. Their easy-folding, easy-cleaning and easy-handling features are apparent at once. But even *more* important to economy-wise hospitals is a feature that takes decades to discover: Everest & Jennings chairs simply *refuse* to wear out.

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Businessman in White Jacket

A frank report on the problem of making the Small Hospital Pharmacy a profitable operation

by Alfred A. Mannino
EXECUTIVE DIRECTOR, HOSPITAL DEPT.
McKESSON & ROBBINS, INC.

With over 30% of every hospital supply dollar going for pharmacy purchases, it is obvious that the person in charge of the hospital pharmacy faces great business, as well as professional responsibilities. In the process of getting the pill to the patient, he must also make sure that the pill has been handled in the most profitable way possible for both the pharmacy and the hospital itself. The constantly increasing volume of pharmacy purchases today indicates that this business responsibility will become ever greater.

So what are the ways for your pharmacy to make money (by saving money) now and in the future? There are only two answers. First, through your profit margin. And second, through the proper management of your inventory. The margin problem is relatively simple compared to inventory control, which has its pitfalls for even the trained pharmacist, especially for the person in the smaller hospital who has to assume the management of the pharmacy in addition to his other burdens.

What is inventory control in its simplest terms? Deciding how much to buy and when. It sounds easy enough until the decisions pile up. Should this tablet be bought in bottles of 500 or 1000? Should I buy this item by the pint or the gallon? Should I place an order big enough to entitle me to additional discount (if available)?

While every hospital pharmacy must make the decision based on its own operations, there are certain guiding factors which, properly proportioned, can help solve the problem. Fundamentally, total expenses are determined by two sets of costs: procurement and carrying. The level at which the combined costs of procuring and carrying inventory are at a minimum is called the Economic Ordering Point. It represents the most profitable management of your pharmacy.

In determining *procurement costs*, you should consider the time it takes to count stock, interview prior to buying, prepare orders, receive orders, store merchandise, prepare cost records and pay the bill. Experience has shown general hospital pharmacy ordering costs to be about 50 cents per item.

In determining *carrying costs*, you should consider five basic factors:

1. **Storage.** Could the space be used for some other purpose to render profit to the institution?
2. **Risk of obsolescence.** Screening and selecting only those drugs and drug products that are produced by reputable manufacturers will insure reliable merchandise and reduce the need to carry non-standard items.
3. **Risk of deterioration.** The dean of one of America's largest pharmacy colleges has pointed out that a purchase which cannot be disposed of in one to three months is not a wise purchase.
4. **Risk of price decline.**
5. **Opportunity cost.** This is the most important single factor and you should always ask yourself what the money tied up in inventory might do to make money for your hospital.

Smaller inventory doesn't need to be a problem. McKesson & Robbins Hospital Service Department is proud of the part it has played in helping to make smaller inventories possible through its fast delivery service. With 82 warehousing units located strategically throughout the country, a local source of supply is available any hour of day or night for emergency deliveries as well as routine service. With smaller inventories naturally comes the greater volume of turnover necessary for profitable operations.

Briefly, those are some basic considerations the businessman in the white jacket must consider in order to make the hospital pharmacy a more profitable operation. McKesson's Hospital Service Departments specialize in the business problems of hospital pharmacies. It's another reason why 60% of the nation's hospitals depend on McKesson in the economical and efficient management of their hospital pharmacies. A McKesson representative will be glad to discuss your business problems with you. Why not let us send you the name of the McKesson Hospital Service Department nearest you. Address your inquiry to A. A. Mannino, McKesson & Robbins, 155 East 44th St., New York 17, N. Y.

(*Continued from page 90*)

During the year, physicians from other hospitals were guests at our committee meetings. They were interested in starting a therapeutic committee in their own hospitals, and obtained information on our functions and procedure towards that end.

At present, our committee is in the process of outlining for the General Staff and the intravenous nursing service, the incompatibilities of mixtures in intravenous infusions. With the popularity of intravenous medication and alimentation, many physicians are prone to make a "Dagwood" intravenous without realizing the hazards of certain chemical reactions which might occur.

On one occasion, a head nurse brought to a pharmacy committee meeting a liter flask of drugs and solutions containing $64 worth of drugs, which had been ordered by a physician on the staff to be given intravenously to a patient. The end result in the flask resembled the first stage of synthetic rubber, which would hardly drain down the pharmacy sink, let alone pass pass through an intravenous needle.

The committee has alerted the staff to State and Federal changes in laws pertaining to food and drugs, and other vital views.

These and sundry other details represent our therapeutic committee's activities over a 12-month period. It should be stated that this committee has never hampered the stocking of any new drug. We offer ample selection of vitamins, sulfas, hormones, antibiotics, and all other classifications. The selection which we offer is more than adequate, but we are trying to keep our pharmacy from expanding out into the corridors of the hospital with surplus stock.

I would like, in conclusion, to touch on the subject of rising costs, and the control that can be exerted by a therapeutic committee.

Drug costs have gone up, first, because there are too many new and untried drugs ordered by the staff man. Some doctors feel that they should try every new preparation, either because they think it is good practice, or because they don't want to be considered old-fashioned.

Secondly, there is too infrequent prescription of USP drugs. Third, there is a continuous changing of medication. Fourth, the millions of dollars invested by the drug firms for their research, and for their advertising and detail men.

The third—at least the research part of it—we would not change if we could. But certainly the others lend themselves to refreshed attitudes, more diligent review of ordering and inventory, and more constructive cooperation.

It has been our experience at the Queen of Angels Hospital that the pharmacy and medical staffs, working together, can achieve not only a simplified, yet adequate formulary, but can reduce costs in the process.

* * *

Essay Contest Announced For Pharmacy Students

The second annual pharmaceutical economics essay contest has been announced under the sponsorship of J. B. Roerig and Co. It will be judged by editors of five national pharmaceutical publications.

Open to junior and senior students in accredited pharmacy colleges, the contest offers $1,500 in cash prizes for essays dealing with any general economic question affecting the profession.

The editors, who also served as judges last year, are: Madeline Oxford Holland, Ph.D., editor, *American Professional Pharmacist;* Louis E. Kazin, associate editor, *Drug Topics;* Peter J. Sletterdahl, editor, *National Association of Retail Druggists Journal;* Irving Rubin, pharmacy managing editor, *American Druggist;* and Eric W. Martin, Ph.D., editor, *Practical Pharmacy Edition* of *The Journal of the American Pharmaceutical Association.*

First, second and third prizes ($250, $150, $100) will be awarded to three senior and three junior class winners. The better of the two first-place essays will receive a $500 bonus. The deadline is March 1.

Rules of the contest may be obtained from: Charles C. Rabe, J. B. Roerig and Co., 800 Second Avenue, New York 17, N.Y.

* * *

Coding System to Aid Drug Identification

A coding system which will aid in the identification of drugs by reference to their physical characteristics is being developed by the American Medical Association.

The system relies solely on such characteristics as size, shape, color, scoring, and similar features of tablets and capsules.

Through use of the system a drug's identity can be narrowed to a relatively few products in a short time; then chemical tests can be made to confirm the identity.

A text, listing about 5,000 products, is being planned for publication next year.

* * *

Virus Diagnosis Method Wins Annual Kimble Award

Albert H. Coons, M.D., visiting professor of bacteriology and immunology, Harvard Medical School, and career investigator, American Heart Association, received the eighth annual Kimble Methodology Research Award for developing a new method which enables physicians to diagnose infectious virus diseases more quickly.

The award, sponsored by the Kimble Glass Co., was presented at the Conference of State and Provincial Public Health Laboratory Directors, held in St. Louis.

The method uses fluorescent dye to tag antibodies so that they will glow under ultra-violet light. To determine whether a cell is infected with a virus such as influenza, serum containing tagged influenza antibodies is put on a strip of tissue. The antibodies will adhere only to the influenza virus. When made to glow under a microscope, the presence of the specific virus is not only detected but accurately located within the cell.

prescription pad

High Level Analgesic

Demerol with Lotusate is designed to provide adequate sedation and control of insomnia in a variety of clinically painful conditions, e.g.—inoperable cancers, fractures, pre- and post-operative conditions, etc.

Tablets each contain 100 mg. Demerol hydrochloride and 100 mg. of the barbituate, Lotusate.

Supplied in bottles of 100 scored tablets, it has been made available by Winthrop Laboratories.

Oral Androgen-Estrogen

Halodrin, combining Halotestin with ethinyl estradiol, has been introduced by the Upjohn Company for management of the menopause, male climacteric, and osteoporosis.

Basing formulation upon a parenterol ratio of androgen to estrogen, each scored tablet contains 1 mg. Halotestin and 0.2 mg. ethinyl estradiol.

Supplied in bottles of 100 tablets.

Antibiotic Powder

Burroughs Wellcome & Co., Inc., has announced Neosporin Topical Antibiotic Powder, for both prophylactic and therapeutic use.

Each gram contains 5,000 units Aerosporin® brand polymyxin B sulfate, 400 units zinc bacitracin, and 5 mg. neomycin sulfate, in a water-soluble, powder base.

Neosporin is supplied in shaker top bottles of 10 gm. each.

For Hepatic Coma

R-gene, an intravenous solution effective in treating hepatic coma resulting from failure of liver function, is available from Cutter Laboratories.

Combining 5 percent L-arginine monohydrochloride in water, R-gene is packaged in 500 cc. flasks with disposable injection equipment and a 50 cc. Ambot of 50 percent dextrose solution.

Antirheumatic

Dipral, an antirheumatic, has been presented by Charles C. Haskell & Co. for use in relieving pain, increasing mobility, decreasing inflammation, and improving metabolic defect.

Each tablet contains 62.5 mg. dipyrone, 192 mg. salicylamide, 192 mg. para-aminobenzoic acid, 20 mg. ascorbic acid, and 2.5 mcg. cobalamin concentrate.

Supplied in bottles of 100 and 1,000 tablets.

For Hyperlipemia

Thos. Leeming & Co., Inc. has announced Clarin, for the management of hyperlipemia associated with atherosclerosis, especially in post-coronary patients and those with early signs of coronary artery

(Continued on next page)

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Miracle silicone protective lubricant.
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disease. Clarin is administered by dissolving under the tongue.

Each tablet contains 1,500 International units of heparin potassium. Supplied in bottles of 50.

Oral X-ray Medium

Orabilex, an oral cholecystographic medium for roentgenographic visualization of the gallbladder and biliary ducts, has been introduced by E. Fougera and Co., Inc.

Capsules are supplied in envelopes of 6 capsules (0.75 gm. each) and in boxes of 5, 25, and 100 envelopes. Also supplied in hospital-size bottles of 250 capsules.

Pain Relief

Ives-Cameron Co. has developed Synalgos-DC, an analgesic-relaxant for relief of moderate to severe pain.

Each capsule contains 16 mg. drocode bitartrate, 6.25 mg. promethazine hydrochloride, 3.0 grs. acetylsalicylic acid, 2.5 grs. phenacetin, and 7.5 mg. mephentermine sulfate.

Synalgos-DC is supplied in bottles of 48 capsules each.

Modified Vitamin Formula

E. R. Squibb & Sons has announced Novo-Basic tablets, a modified vitamin stress formula for convalescence and mild disease or injury.

Novo-Basic, high potency B complex with vitamin C, omits vitamin K and reduces folic acid to dietary levels; it is approximately one-half the potency of Novogran, Squibb stress-formula vitamin tablet.

Supplied in bottles of 60 and 80 tablets.

For Hypertension

Equalysen, combining Equanil (meprobamate) and Ansolysen (pentolinium tartrate) in one dosage form, is recommended by Wyeth Laboratories in treatment of emotional and vascular aspects of essential hypertension.

Each scored Equalysen tablet combines 200 mg. of Equanil and 200 mg. of Ansolysen.

Bowel Sterilizer

Neobiotic tablets, a bowel sterilizer, manufactured by Pfizer Laboratories, are particularly useful as a companion to Enterobiotic, agent for preoperative sterilization of the large bowel and anus.

Orally administered, each tablet contains 500 mg. of neomycin sulfate equivalent to 350 mg. of neomycin base.

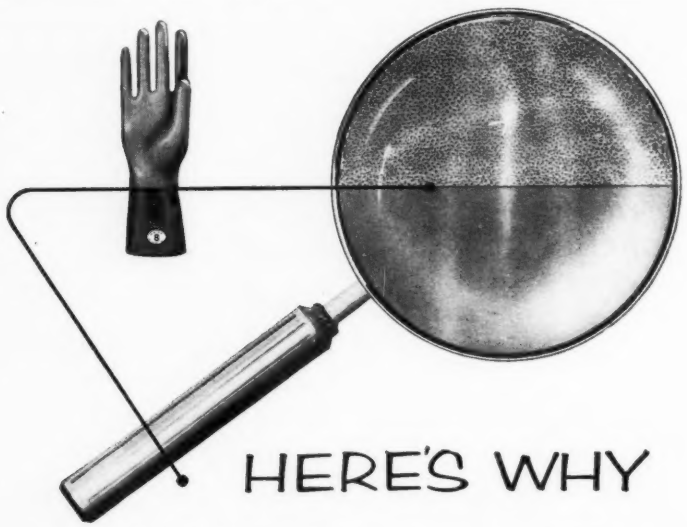
Neobiotic is supplied in bottles of 20 and 100 tablets.

Muscle Relaxant, Analgesic

McNeil Laboratories has announced Parafon with Prednisolone for the relief of pain, stiffness, and limitation of motion associated with skeletal muscle spasm and inflammation.

Each scored tablet contains 125 mg. of chlorzoxazone, 300 mg. of acetaminophen, and 1.0 mg. of prednisolone.

Parafon with Prednisolone is supplied in bottles of 36 tablets.



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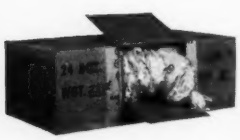

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clinical notes

Pediatric Use Of Sigmamycin

During six months treatment of 128 children, in 110 of whom the therapeutic result could be verified by clinical and bacteriological data, sigmamycin produced cure in 115 and failed completely in six. All strains of staphylococci tested were sensitive to sigmamycin. The therapeutic effect appeared promptly and the drug was well tolerated. Secondary effects were observed in about one-fifth of the patients, but premature interruption of treatment was required in only one case. In very acute cases, especially in septicemia, purulent meningitis, arthritis, osteomyelitis, and complicated pneumonia, a high initial dosage was used: orally 100 to 200 mg. per kilogram of body weight daily; intravenously 50 mg. per kilogram daily.

Additional ailments treated in the group were infections of the respiratory tract, enteritis, infections of the urinary tract, and suppurative lymphadenitis.

The drug, a combination of two parts tetracycline and one part oleandomycine, was used in the form best suited to each instance: capsules, syrup, intravenous and location application.

Originally printed in a German journal, this paper by J. Felder is abstracted in *J.A.M.A.*, December 27, 1958, Vol. 168, No. 17.

Study Anti-Pruritic

New oral anti-pruritic investigation reported 90 patients in whom severe pruritus was a distressing and complicating factor, over a spread of such seemingly unrelated conditions as biliary cirrhosis, poison ivy, and neurodermatitis —all of which were treated with Temaril in the course of the year.

The patients selected were those whose conditions had resisted other forms of therapy such as topical systemic administration of steroids, anti-histamines, sedatives, or tranquilizers.

The age range was one year to 75; 68 were female and 22 male.

Initial dose consisted of one 2.5 mg. tablet two to three times daily. Bedtime doses were usually doubled because of increased nighttime itching, although in some instances they ran as high as 20 mgs.

Drowsiness, a mild side effect, could be largely eliminated by taking Temaril just prior to meals. Lethargic effects following heavy night time doses were reported in only one case.

Prolonged administration apparently produced no serious untoward effects.

These results were reported in *Northwest Medicine*, pp. 1162-1164, September, 1958, by P. L. Williams.

Intra-Articular Steroids Can Be Harmful

In a controlled trial of intra-articular steroid therapy in rheumatoid arthritis, both hydrocortisone acetate and hydrocortisone tertiary butyl acetate were found to produce definite clinical improvement. A trend toward greater improvement at the second week after treatment became very significant at the sixth week. However, x-ray examinations over a period of 48 weeks indicated that while the patient showed clinical improvement, the joint itself gave evidence of deterioration. Thus, intrasynovial injection of hydrocortisone and related compounds either failed to halt or, more usually, accelerated pathological changes.

It was suggested that a capacity of performance was attained beyond the capacity of the joint due to the increased comfort of the patient. The observed deterioration suggests that a damaging level of performance was encouraged in the patient by interference with a normal, locally protective mechanism.

Carried out in London by G. N. Chandler and V. Wright, the work was reported in *J.A.M.A.*, Vol. 168, No. 17, p. 2302.

Meprobamate Poisoning

It has been suggested that early symptomatic treatment may sometimes be life-saving in certain cases of meprobamate poisoning, although there may be individual variation and susceptibility to the acute toxic effects of the drug.

Autopsy findings on two women who had ingested 12 and 20 Gms. of meprobamate respectively are interesting because they are apparently the first cases of death resulting from this tranquilizing drug. One woman weighed 110 lb. (50 kg.) and the other 125 lb. (57 kg.). In the first woman, 12 Gms. of meprobamate would represent a dose of 240 mg. per kilogram of body weight, and in the second, 20 Gms. would represent 350 mg. per kilogram of body weight, both of which are below the lethal dose in animals.

In contrast to this incident, in 11 additional cases patients had ingested amounts ranging from 10 to 4 Gms. of this drug and all recovered.

Gastric lavage was used, and an oral airway was inserted in several patients to insure respiration. Central nervous system stimulants were used. These included dextro amphetamine sulfate, amphetamine sulfate, caffeine and sodium benzoate pentylenetetrazol, pictrotoxin, and coffee.

L. W. Powell, Jr., G. T. Mann, and S. Kaye discussed these findings in the *New England Journal of Medicine*, 259:716-718, October 9, 1958.

Chlorothiazide

Side-effects of the nonmercurial, diuretic agent chlorothiazide are reported in two recent issues of the *Journal of the American Medical Association.*

In addition to depleting sodium and potassium levels, the drug apparently causes the kidneys to retain uric acid, Oren, Rich, and Belle write in *J.A.M.A.* 168: 2128-29 (December 20, 1958).

All 12 patients they studied showed significant elevation of blood uric-acid levels. They suggest that patients who have a history of gout should be watched with especial care.

Two cases of purpura following chlorothiazide therapy are described by Jaffe and Kierland in *J.A.M.A.* 168: 2264-65 (December 27, 1958).

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THE JUNIOR TOMPKINS

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Training Medical Technologists

[—*Second in a Series*]

By E. E. Myers, M.D.*

• In planning the successfully organized and conducted school of medical technology, the curriculum should be so arranged that graduate work can be pursued in several fields—such as microbiology, parasitology, and biochemistry. It is desirable to include physics and mathematics in the curriculum if possible.

Beginning January 1, 1962, three years of college work (90 semester hours) will be required for admittance to training in medical technology.

Specific steps which must be taken in setting up and carrying out the program of a school of medical technology are listed below. Additional information is also provided regarding forms and material necessary to both obtain information on the student and orient him to the school.

——Application forms should be obtained from the Council on Medical Education and Hospitals of the American Medical Association, along with a reprint list of approved schools and the essentials necessary to maintain an approved school. These latter requirements must be met.

——The length of the training course must be decided upon. The minimum acceptable is 12 months, and probably the maximum for efficient training is 24 months.

——Affiliation or association with a local or nearby college is desirable so that students may receive a degree. For affiliation, the college must be accredited by the Regional Accredited Association.

——The number of lecture and lab hours which will be given in each subject must be determined. The courses should be based on standard college procedure and preferrably be conducted on a graduate level. Lectures of one hour or, at most, two hours per day will be found sufficient to accommodate the required time.

——An application form which suits local conditions must be set up.

——A file must be kept for each student. It should include high school and college transcripts, application form, progress forms, evaluation, examinations, and other pertinent data. (Each college transcript must be evaluated by the Registry of Medical Technologists.)

——Beginning schedule assignments for students should be ready and posted on the bulletin board before classes convene.

——Teaching sets of slides for hematology, parasitology, and bacteriology should be made up and purchased well in advance.

——Both the lecture room and adequate library facilities should be available in or adjacent to the lab. All of the books and journals listed in the curriculum should be in the library. Necessarily, an academic atmosphere should pervade the whole lab.

——Weekly conferences of the entire lab staff should be held along with monthly laboratory staff meetings at which students and others have an opportunity to present articles, original work, demonstrations, etc. The school itself once or twice a year should give demonstrations for the medical staff of the hospital demonstrating new lab testing, etc.

——Students of medical technology should be encouraged to look forward to registration and membership in the American Society of Medical Technologists and in their state society. Student representatives should be sent to the state and national medical technology meetings each year and should participate in programs whenever possible.

Local recruitment may be necessary in high schools and colleges in order to both interest students in medical technology and permit the school to be known. Material to aid in this program can be obtained from the Registry of Medical Technologists and from the National Committee for Careers in Medical Technology.

A sample form which might serve the new school as an application for admission is shown below.

(*Continued on page 99*)

*Director, the Myers Clinic-Broaddus Hospital School of Medical Technology, affiliated with Alderson Broaddus College, Philippi, W. Va.

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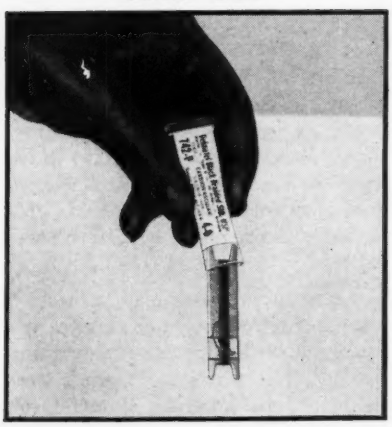
- **Transparent Deknatel Plastic Pak is sterilized in the solution you have known and relied upon: FORMALDEHYDE.**
- **Each Deknatel Pak is subjected to an exacting test for leakage.**
- **There is no leakage problem with the Deknatel Pak. Prove it to yourself:**

Deknatel Plastic Pak is stored in a jar solution containing fluorescein dye. Should a Pak develop a leak, detection is immediate and foolproof: Pak would contain colored storage fluid. ONLY DEKNATEL gives you this visual protection!

FAST, SIMPLE HANDLING

SLIDE OUT

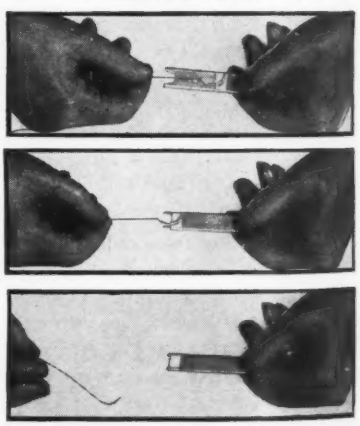


Invert reel and press sides. Instruments not needed for removal — reel drops freely from cut Pak.

ONE-HAND UNWIND

Hold suture end. Metal reel unwinds by its own weight.

SLIDE OFF



Needle is automatically freed from its protective metal tab. No instruments required.

For samples, write

J. A. Deknatel & Son, Inc.

96-24 222 Street, Queens Village 29, New York

Suggested Personal Data Sheet:

.....Hospital

SCHOOL OF MEDICAL TECHNOLOGY

Personal Data Sheet

Date.....

Name..... ....
Last Name **First Name** **Middle Name**

Home Address..... ....
Number and Street **City** **State** **Tel. No.**

Place of Birth..... Date of Birth.. ....
Month **Day** **Year**

Race.....Religious Preference.....

Social Status: Single.....Married.....Widowed.....Divorced..... No. of Children.....Ages.....

Father's Name.....Address .....

Occupation .....Health .....

Mother's Name .....Address .....

Occupation .....Health .....

Brothers.....Sisters..... Name of Spouse.....

Health: Do you have any defect of sight, hearing, speech, or limb?.....

If so, describe.....

Have you ever had active tuberculosis?.....

Inoculated against Smallpox 19....., Typhoid Fever 19.....Diphtheria 19.....

Do you use tobacco?.....Alcohol?..... If so, to what extent?.....

Bust photograph of applicant taken within six months of date of this application

(Over)

On reverse side of Personal Data Sheet:

REFERENCES

Name	Address	Business or Profession
1.		
2.		
3.		

Suggested are a college science teacher, minister and businessman.

Write a paragraph, in longhand, stating why you are interested in studying medical technology.

List your hobbies and state how far you have pursued each:

(Continued on next page)

Well-lighted sample library, left, for use of in-training medical technology students avoids conditions which will make study uncomfortable.

Library, right, is combined with lecture room for most effective use of space. Needed blackboard, projection screen, other facilities provided. Room is also available for meetings.

TECHNOLOGISTS continued

Accompanying this form should be an admission request blank. It might read:

Hospital School
of Medical Technology
Application for Admission

Date————

I, the undersigned, do hereby make application for admission to the School of Medical Technology of ————Hospital, for the class beginning————.

I agree to abide by the rules and regulations of the Laboratory.

I have read and understand and agree to the rules and regulations relating to the School of Medical Technology as set forth on the accompanying page, specifically those portions headed hours, vacations and absences, student academic standards and dismissals, tuition and other expenses.

I submit herewith an official transcript of my college work.

Accompanying this application is a personal data sheet properly filled out.

Signed:————

A concise and clear-cut statement of the hospital's policies in the form of direct information, rules, and regulations is desirable. A sample statement of this sort follows; however, each individual school will find it necessary to substitute or supplement wherever its own conditions warrant:

Hospital School of Medical
Technology Information,
Rules and Regulations

ADMISSION

Selections will be made on the basis of merit as indicated by personal qualifications, success in college courses, etc. No student will be admitted to the school with a condition in any scientific subject. Admission will be limited to six students a year.

COURSE

Classes begin the second Wednesday in September and continue for 20 consecutive months.

HOURS, VACATIONS AND ABSENCES

The hours of the school are from 8:00 A.M. to 5:00 P.M. Monday through Friday; 8:00 A.M. to 1:00 P.M. Saturday. Sundays and hospital holidays are free. After several months the student will have "on call" duty for emergency work. During the summer between the first and second years, students are allowed two weeks vacation.

Leaves of absence are allowed for serious illness or emergencies; time lost in excess of two weeks for the entire period must be made up before graduation. Any absence that seriously interrupts the student's program may necessitate

withdrawal from the school, either temporarily or permanently.

STUDENT ACADEMIC STANDARDS AND DISMISSALS

To continue in the Medical Technology course the students must maintain at least an average of "C" and must continue to demonstrate an aptitude and fitness for Medical Technology.

The school reserves the right to dismiss any student for incompetence, misconduct or violation of regulations.

COLLEGE HOURS REQUIRED FOR ADMISSION

Zoology	8 hours
General Chemistry	8 hours
Comparative Anatomy	4 hours
Embryology	4 hours
Organic Chemistry	4 hours
Quantitative Analysis	4 hours
Social Science	6 hours
English	12 hours
History	6 hours
Humanities	4 hours
Orientation	2 hours
Psychology	3 hours
Physical Education	2 hours
Electives	6 hours
Speech	3 hours

TUITION AND OTHER EXPENSES

There will be no tuition. Meals and laundry of uniforms will be furnished by the Hospital. The student will make his own arrangements and pay for room in the place of his choice. A fee of $25.00 for special training materials is payable annually. Students will pay for their own books, uniforms, etc.

HEALTH PROGRAM

Applicants for admission to the School are required to submit evidence of good physical health showing (a) immunization against smallpox (within four years), typhoid fever and diphtheria, and (b) that all defects such as dental, eye, and diseased tonsils have been corrected. A physical examination is given before final admission, and at any other time deemed advisable. (Above immunizations will be given without charge at time of entering school if not already immunized.)

In case of illness, students in the School are cared for at———— Hospital. The Hospital Laboratory assumes no responsibility for illness resulting from physical defects present at the first examination, or occurring as a result of accidents incurred outside the Laboratory, such as sports, automobile, etc.

Student Technologists are required to subscribe annually to some type of approved hospital insurance. Professional care by a physician, during the period of hospitalization allowed by the insurance policy, will be provided without cost to the student. A reduction of fifty percent will be granted on all laboratory and x-ray work, not covered by the insurance, and drug, medications, dressings, casts, etc., will be furnished at cost.

Further information and application forms may be obtained from the Director of School of Medical Technology, ————— Hospital, ————, ————.

(*Continued on page 103*)

HOW TO FIGHT CROSS INFECTION

USE BEE-KEM'S TWO NEW PRODUCTS

KLINIC-KLEEN
DETERGENT • DISINFECTANT
DEODORIZER • BACTERIOSTAT
(in Powder Form)

A Powerful Detergent which disinfects as it cleans*

D-B-8
DISINFECTANT • DEODORIZER
BACTERIOSTAT
(in Liquid Form)

A Powerful Disinfectant which removes light soil*

**The extent of soil determines which product to use in general cleaning-disinfecting procedures.*

These two new products have been specifically formulated to aid in the maintenance of environmental asepsis. Powerful in their action against all types of bacteria, KLINIC-KLEEN and D-B-8 are particularly effective against the strains of staph aureus, aerobacter aerogenes and other microorganisms which are resistant to antibiotics.

The following applications are recommended

- FLOORS, STAIRS — Cleaning and disinfecting
  For wet mopping — use KLINIC-KLEEN
  For damp dusting — use D-B-8
- WALLS, WOODWORK, DOORS — Cleaning and disinfecting
  Where soil is light — use D-B-8
  Where soil is heavy — use KLINIC-KLEEN
- FURNITURE, FIXTURES, APPLIANCES, ARTICLES — Cleaning and disinfecting
  Where soil is light — use D-B-8
  Where soil is heavy — use KLINIC-KLEEN
- BLANKETS, SHEETS, PILLOWCASES, ETC. — Disinfecting
  After cleaning or laundering — use D-B-8

BE SAFE — SAVE TIME — SAVE MONEY with Bee-Kem's anti-cross-infection team.

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BEE-KEM PRODUCTS, INC.
Professional Products Division
342 MADISON AVENUE
NEW YORK 17, N. Y.

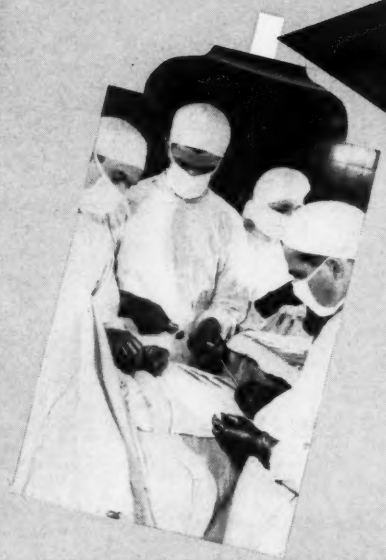
Please send —
TECHNICAL BULLETIN ON: ☐ KLINIC-KLEEN ☐ D-B-8
SAMPLES OF: ☐ KLINIC-KLEEN ☐ D-B-8

Name.....Title.....
Hospital.....
Address.....
Our Supply Dealer is:
Name.....
Address.....

Betadine

BRAND OF POVIDONE-IODINE

UNSURPASSED BROAD-RANGE GERMICIDAL SPRAY



...confirmed in 100 surgical "prepping" procedures[1]

"The area was wiped dry (after the usual shave, wash, etc.) and povidone-iodine [BETADINE] sprayed over an adequate surface. Bacteriological cultures taken from the sites before and after operation indicated that all pathogens were eliminated by this procedure, the only remaining organisms being saprophytes and diptheroids."

...confirmed in 200 emergency suture cases[1]

"The wounds were cleansed of all foreign material, debrided and sprayed with povidone-iodine [BETADINE] prior to suture... All wounds healed *per primam* without side reactions or evidence of local irritation."

TOPICALLY APPLIED

Betadine

KILLS OUTRIGHT KO

pathogenic bacteria
viruses
fungi
protozoa
yeasts

- *prolonged release of effective germicidal action ...will not lead to the development of resistant strains*
- *unique film-forming property protects against invading pathogens...effective against Staph. aureus and other organisms resistant to tropical antibiotics*
- *virtually non-irritating to skin and mucosa*

1. Garnes, A. L.; Davidson, E.; Taylor, L. E.; Felix, A. J.; Shidlovsky, B. A., and Prigot, A.: Clinical Evaluation of Povidone-Iodine Aerosol Spray in Surgical Practice, Am. J. Surg., 97:49 1959.

Available: BETADINE Aerosol in 3-oz. bottles.
BETADINE Antiseptic Solution in 8 and 16-oz. bottles.
More detailed information upon request.

TAILBY-NASON COMPANY, INC. DOVER, DELAWARE

established in 1905

A further word should be said about the schools' learning areas.

The library, laboratory and lecture facilities must receive particular attention. The library is the heart of the laboratory training. It should contain a minimum of 300 volumes of up-to-date test and reference books on the various laboratory divisions and at least 20 journals pertaining to laboratory subjects. The main objectives are accessibility and comfortable furnishings and pleasant atmosphere to encourage use. Lighting should be adequate at reading level as determined by a light meter.

Accessory equipment should include pencil sharpener, paper trimmer, a multiple punch for notebooks, stapler, and typewriters.

The lecture room and library can be combined with several advantages. The lecture room should contain a bulletin board, blackboard, projection screen, and a lectern. Projectors which should be present or immediately available would include a 16 mm. sound, 3¼x4, 2x2, a 35 mm. film-strip projector, and a microprojector. A transcription player is necessary. Provision should be had for readily darkening the room for projection.

The room might also serve for conferences of the laboratory staff.

(The following abstract from the American Association of Medical Technologists meeting is presented for its continuing interest to our readers.)

Radioactive Iodine Is Most Widely Used Isotope

Valuable for Thyroid Diagnosis Other Clinical Applications

Of the radioactive isotopes, radioactive iodine—I^{131}—has the widest application because its physical properties, that is, its half-life and the radiation it emits are very suitable for clinical use.

Its half-life of eight days is long enough to allow accurate detection without causing a serious health hazard; the gamma rays it emits ,are readily detected outside the body making it valuable in tracer work.

Although it is being used to locate brain tumors, evaluate renal and liver function, and determine fat absorption in the gastrointestinal tract, I^{131} is most widely used for the diagnosis of thyroid disorders. In the test, the radioactive iodine which is ingested is absorbed from the gastrointestinal tract into the blood. The thyroid gland, having a marked affinity for iodine, rapidly takes it up from the blood; the excess is excreted via the kidneys.

Within the thyroid gland, the synthesis of thyroxin takes place, the iodine being incorporated into the thyroid molecule. Thyroxin then is released into the blood, where it immediately becomes bound to serum protein and circulates as a thyroxin-protein complex.

In normal individuals, the thyroid will contain 10 to 40 percent of a dose of radioactive iodine 24 hours after its administration. The hypothyroid patient will have an uptake of less than 10 percent, while the hyperthyroid patient will take up more than 45 percent.

The use of I^{131} in therapy of thyroid disorders is of importance to the technologist insofar as the measurement and handling of the doses are concerned. Therapy resolves itself into three general categories:

1. Treatment of hyperthyroidism. Doses in these cases vary from 3 to 10 millicuries; a single dose usually is sufficient.

2. Induction of hypothyroidism to alleviate the effects of cardiac failure or angina pectoris. Doses vary from 10 to 25 millicuries; several doses may be required.

3. Therapy of thyroid carcinoma. Here the aim is to completely eradicate any functioning thyroid tissue. Therefore, doses are massive—75 to 100 millicuries; two or three doses may be given.

Because of the simplicity of this form of therapy, and the infrequency of ill effects, it has become increasingly popular, being used in place of surgery to a large extent. *Norman H. Engbring, M.D.*, Marquette University School of Medicine, Milwaukee.

Intern, Resident Training Shared by Six Hospitals

Six Jacksonville, Fla., hospitals have inaugurated a program of cooperative education of interns and residents, based upon ten years of planning.

The unique approach of the Jacksonville Hospitals Educational Program, Inc., encompasses St. Luke's Hospital, Duval Medical Center, Brewster Hospital, St. Vincent's Hospital, and Hope Haven Hospital.

Resources have been pooled for the improvement of quality and availability of interns and residents, for advanced therapeutic and diagnostic facilities, and improved research facilities and equipment.

The program's coordinator, Max Michael, Jr., M.D., reports to a board of trustees on which each hospital is represented by its administrator, a member of its lay board, and a member of its medical staff.

YOU SAVE money for your hospital when you buy Gudebrod silk and cotton sutures.

Sterilize Gudebrod sutures as you need them and save **UP TO 50%** of your suture **COST.** Every improvement **IN** non-absorbable sutures is incorporated in these **SUTURES** . . . manufactured by Gudebrod for eighty-nine years.

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CHICAGO BOSTON LOS ANGELES

Demonstration of Occult Fetal Hemorrhage

The following material was presented by S. R. McCreadie and J. E. Matallana, Louisville, Ky., at the Joint Annual Meeting of the American Society of Clinical Pathologists and College of American Pathologists.

• Fetal death due to occult hemorrhage is relatively easy to demonstrate, *except* when the mother's serum destroys the infant's cells, e.g., when the infant is heterospecific (A or B child of O mother) or if there is associated hemolytic disease of the newborn. In cases of this type, proof is seldom conclusive. Prompt and thorough examination of the placenta, however, may provide the additional evidence necessary to clinch it. We present such an example.

CASE REPORT

A white baby girl was delivered in apparently entirely normal fashion on November 7, 1957, after 7½ months' gestation which was uneventful until the onset of what was called intense "perineal pressure" about 2 hours before the membranes ruptured. Maternal blood loss was not excessive. The infant was pale but otherwise described as "in good condition," as seems to be usual in these. After half an hour, however, respiration became extremely labored and it is recorded that the infant "went into shock." As artificial respiration, naturally enough, brought no improvement, the child was transported to Children's Hospital where it was dead on arrival one and a quarter hours after birth.

Blood Groups: all concerned i.e. the baby, both parents and all *three* normal siblings were Rhesus negative. The father and baby were group B; the mother and the other children were group O. In the mother's history it is noted she received transfusions at three months and 14 years of age.

AUTOPSY

At autopsy (2205 grams—1400 after ascitic fluid removed) gross and microscopic findings were indicative of prematurity, of cardiac failure, *very severe* anemia with dehydration and *mild* hemolytic disease of the newborn. Both myocardium and skeletal muscle showed edema and degeneration and there was complete necrosis of the adrenal fetal cortex.

The baby's post-mortem blood sample showed: very low hemoglobin and hematocrit, no increase in bilirubin, and only a few spherocytes and nucleated red cells on smear. Direct and indirect Coombs tests were negative against Rhesus factors which eliminate HDN due to these. Indirect Coombs test was positive against *group B* cells in-

(*Continued on page 107*)

MOTHER'S BLOOD

Maternal serum absorbed with Gp. O. Rh. positive (CDe/cDE) cells against Gp. B. Rh. positive cells (CDe/CDe) after partial neutralization with Witebsky B. substance.

Time	18 hours	8 days	1 month	
Albumin	1:8	1:32	—	
Saline	1:128	1:64 (Hemolysis 1:2)	1:512	(B neg. cells) 1:32
Coombs	1:256	1:1024	1:4096	1:512
Anti D	Ind. Coombs Pos. against Gp. O. Rh. pos. cells (R_1R_2).		Saline neg. Albumin 1:8 Coombs 1:128 (cDe/cde) i.e. pure anti-D.	

MOTHER'S BLOOD

			1 Month	2 Months	3 Months	4 Months
	Albumin	37°C	—	1:16	—	—
		4°C	—	—	—	—
Anti-B	Saline	37°C	1:512	1:64,000 (17th tube)	37th tube	16th tube
		4°C	1:32	—	1:4096 (13th tube)	1:512
	Coombs	37°C	1:4096	45th tube	42nd tube	19th tube
		4°C	1:1024	—	36th tube	1:1024
				Hemolysis 1:4		
$\overline{\text{Anti-D}}$ against Gp. O, Rho cells	Saline	37°C	Negative	1:4	—	—
	Albumin	37°C	1.8	1:16	—	—
	Coombs	37°C	1:128	1:256	—	—

DEMONSTRATION OF OCCULT FETAL HEMORRHAGE

1. Fetal RBC in maternal circulation: a) post-partum. b) during pregnancy.
2. Maternal buffy coat: a) erythrophagocytosis. b) nucleated RBC.
3. Placenta: lacerations or cavities; nucleated RBC.
4. Raised Hemoglobin F in maternal circulation post-partum.
5. Absorption of natural maternal antibodies at time of delivery.
6. Development of maternal titre against fetal antigens after delivery.
7. Maternal hyperbilirubinemia post-partum.
8. Hemoglobin F in blood from vaginal hemorrhage in last trimester.

Another New Private Room Grouping in Teakwood Grain Farlite

(designed by Raymond Loewy)

Here is another beautiful private room featuring the new Hill-Rom No. 8500 Grouping designed by Raymond Loewy and finished in No. 85 Teakwood Grain Farlite. The bed, beside cabinet and straight chair all share in the beauty and utility of this high pressure laminated plastic, combined with Satin Stainless and Loewy Charcoal.

As in all Hill-Rom designs, every item in this grouping has been scaled down to appropriate size for today's small hospital rooms. No longer is it necessary to crowd these small rooms with furniture designed for the larger rooms of several years ago—another "Hill-Rom First."

HILL-ROM
8500
SERIES

Included in the above room scene are: No. 85-65 All-Electric (Push-Button control) Hi-low Bed; No. 8503 Bedside Cabinet; No. 85-614 Overbed Table; No. 8507 Straight Chair; No. 8508 Arm Chair, and No. 306 Lamp. This furniture is ample for a room with a built-in wardrobe dresser. If drawer space is required, we offer No. 8526 Chest Desk. Catalog picturing and describing all of these items will be sent on request.

HILL-ROM COMPANY, INC • BATESVILLE, INDIANA

Light . . . where you need it most . . . with the New Hill-Rom No. 307 BEDSIDE CABINET LAMP

• Here, for the first time, is a lamp placed where a hospital lamp *should* be placed—where it can put the light exactly where it is needed. This new Hill-Rom lamp is attached to the back side of the bedside cabinet, where it can be easily manipulated by the patient, yet is out of the way of the nurse—until it is needed. A parabola shade inside the outer shade permits spotting the light when intensive light is wanted for examination, injections, etc., or to reflect the light for reading. Inverting the light gives indirect lighting. The shade is ventilated—will never become hot. A convenience outlet permits the use of electric appliances. This lamp is completely approved by Underwriters' Laboratories, Inc., as safe for hospital use. Complete information on request.

AT RIGHT: *The Hill-Rom No. 307 Bedside Lamp reflects the light on the reading matter—not in the patient's eyes.*

HILL-ROM COMPANY, INC. • BATESVILLE, INDIANA

dicating circulating anti-B which, along with a positive Witebsky-Rubin test, furnishes evidence of anti-B hemolytic disease of the newborn. The mother's blood examined periodically from 18 hours until 4 months after the birth showed almost unbelievable rises of immune anti-B *after* neutralization of the serum by Witebsky B substance. The chart of mother's blood, at left, gives an idea of the strength of the antibody produced. In addition to the anti-B, maternal blood contained anti-D (anti-Rho) rising at 3 months to a titre of 1 in 2048 and falling at 4 months. There was no bilirubin rise but Hgb.F as determined by Chernoff's alkali denaturation method reached 2% (rather more than the high limit of normal by the method). At 2 months it had fallen to 0.5%. We failed to demonstrate any other antibodies.

PLACENTA

The fresh placenta weighed 840 grams (more than one third body weight) measured 19 x 15 cm. in area and up to 7 cm. thick. The fetal surface was not remarkable. The maternal aspect showed irregular, bulky, rather soft, pale cotyledons without any old gross infarction. One very distended cotyledon (up to 8 cm. in maximum diameter) was sectioned to uncover a large irregular, fairly firmly attached fresh blood clot, 7 x 8 cm. in area and up to 5 cm. thick, its deep aspect within 0.5 cm. of the fetal surface. We thought this might be grouped as fetal blood (B), but a sample was not agglutinated by strong anti-A or anti-B sera and so it was thought that maternal anti-B had destroyed any fetal B cells. It was not until after the placenta had been placed in fixative that the idea occurred to test the clot for hemoglobin F. Samples of clot were taken at progressively deeper levels and as the fetal surface was approached the level of hemoglobin F reached 31%. As control, tests of clot from the maternal surface of intact placentas all showed less than 3% hemoglobin F, and in 12 placentas when specimens were taken at a series of levels in each, only a very slight gradient of Hgb. F from fetal to maternal surface was seen; although focally some concentrations were higher than in this placenta.

In summary, then, three conditions are present:

i. maternal titre of anti-D in a Rhesus negative woman with Rhesus negative husband.

ii. ABO hemolytic disease.

iii. occult hemorrhage from fetal circulation.

To dispose of the first two: the anti-D we think, is an anamnestic reaction in the train of the immune anti-B generation. The initial stimulus would be either or both of the mother's early blood transfusions.

The ABO incompatibility was mild and *not* the cause of death. The ascites, edema, and focal degeneration of muscle, and necrosis of the adrenal fetal cortex, we attribute to anemia, cardiac failure and anoxia, and to shock. These changes could readily have been produced in the relatively short life of the infant.

To return to the condition of primary interest: with all the evidence available, presence of fetal blood loss is indisputable despite the absence of obvious source at the actual delivery. The extreme pallor, low levels of hemoglobin and hematocrit, and the development of shock definitely indicate severe anemia. Yet, without the *placenta* there is no definite proof of the site of loss and the whole picture might well, on superficial examination, be attributed to hemolytic disease. The 2% level of Hgb. F in the maternal circulation is only a very slight increase and not enough to justify any conclusions.

In any case of this condition, the placenta may be the most important source of information, but when maternal blood is destroying infant's cells, it is almost the only one; and, when the morphologic evidence is supported, as here, by chemical demonstration of alkali resistant Hgb. F, the quick diagnosis made grossly is afforded strong corroboration.

ANNOUNCING

11th Annual Short Course in

HOSPITAL HOUSEKEEPING

March 30 to May 21, 1959

Sponsored by the American Hospital Association in cooperation with Michigan State University, Kellogg Center for Continuing Education

And again this year Huntington Laboratories

Is offering TEN SCHOLARSHIPS

Anyone you select is eligible to compete... the Short Course in Hospital Housekeeping has but one objective—better patient care through better hospital housekeeping.

Anyone you select from your hospital may attend the course and is eligible to compete for a Huntington Laboratories scholarship. The rules are simple. The person must presently be employed by a hospital, or promised employment upon completion of the course. Two letters of reference are necessary, plus a statement of 500 words or less from the person you select on "What benefits I expect to obtain from the Short Course in Hospital Housekeeping." Each scholarship will cover the major portion of the room, board, tuition and book costs (approximate value, $300.00).

For details, write: American Hospital Association, Huntington Laboratories Educational Fund. 840 North Lake Shore Drive. Chicago 11, Illinois. Deadline for applications is February 9, 1959. Huntington Laboratories has no part in the selection of winners.

HUNTINGTON LABORATORIES
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Pediatrics

Teen Unit Recognizes Special Problems of Adolescents

• Adolescent patients often feel like misfits in the hospital. They do not wish to be considered children, and placed with younger children on pediatric wards, yet they feel out of place among adult patients.

The "special problems" of teen-agers need recognition in the hospital just as much as out of it, in the opinion of the administration and the medical and nursing staff at Children's Hospital, Washington, D. C. The success of the hospital's teen unit seems to bear out their opinion.

Stepping out of the elevator onto the fifth floor, one sees a sign—Teen Unit. An arrow points down the hall toward the unit established two years ago to meet the hospital needs of a "medically somewhat neglected group," to quote Robert H. Parrott, M.D., the hospital's physician-in-chief.

Near the elevator is a phone booth, likely to be occupied by a teen-age boy calling his girl friend (see picture), or a talkative teen-age girl exchanging confidences with a chum.

Teen-agers need a very special, yet unobtrusive attention, according to Dr. Parrott.

"They do not want to be considered babies, they do not want to be considered adults, and yet they do not want to be singled out. We must find a way to deal with them so that we do not intrude on their privacy, and yet offer ourselves to them both medically and emotionally, to help meet their problems."

Despite the desire not to be considered children, however, many adolescent youngsters would like to continue seeing the doctor they have known for so long—their pediatrician. Awareness of this feeling was one factor which favored establishment of the teen unit at Children's Hospital.

"Before our adolescent unit was activated," says Dr. Parrott, "we interviewed a high-school sorority group in order to hear their opinions. Several of the girls said they did not want to leave their pediatricians. They thought that it was a wonderful idea for the pediatrician to continue treating them and were 'afraid' to go to another doctor. They thought they would be uncomfortable with another doctor."

The normal adolescent is apt to be hypochondriacal, according to Belinda Straight, M.D., training fellow in psychiatry, National Institutes of Health. He is concerned over small twinges, minor skin irritations, and the worry that something is wrong with his body. When he is actually ill, these concerns are reinforced and may lead to greater anxieties, depressions, or difficulties in management of the physical disease.

His worries can often be dealt with directly, says Dr. Straight, by the person who has known him a long time—the pediatrician. A simple explanation of what the illness is and how it will be treated can allay his fears.

"It seems that the teen-agers feel comfortable with their old friends, the pediatricians, in a setting which is their own: the Teen Unit," Dr. Straight comments.

The teen-age patient is usually very cooperative if he knows what is being done and why, Dr. Straight adds. He requires more explanations than younger children. And he will be more cooperative if he feels that he plays a role in his own care.

PROBLEMS OF UNIT

What are the problems in establishing a teen unit? In Children's Hospital, which previously had not taken children over 12 years of age, there were first the obvious ones, such as physical facilities. Larger beds were required, for example; larger instruments were needed for the operating room.

Intently watching television are Robert Bickslar, 10 (in wheel chair); Lark Fischer, 10; and Benjamin Brown. Television sets go on at breakfast time, frequently stay on all day.

The phone booth is usually busy. Here 16-year-old George Bissett puts in a call to a girl friend.

Adolescent patients are permitted to smoke if their parents let them smoke at home . . . but only in a certain area. George Bissett enjoys a cigarette and a brief chat with Joann Martin, student, Sacred Heart School of Nursing, Cumberland, Md.

The three groups of teen-agers called in as advisers in planning the unit had some rather elaborate ideas for making the unit into a sort of extension of their favorite "hangout," complete with "juke box" and record-player. The girls wanted telephones in the rooms, but this request was denied—the switchboard couldn't handle any more lines.

Soon after the unit opened, problems arose which the planning committee hadn't anticipated. One of these was the teen-age appetite. Night snacks were established. The nurses go around each evening and find out what kind of sandwiches the boys and girls want before they go to bed.

"If we have 12 patients," says Jane Donnelly, head nurse on the unit, "there are 12 different kinds of 'Dagwood's' ordered every night. Within limits, they get them."

The adolescents have selective menus. The most frequent choice, says Miss Donnelly, "is still hamburgers, two to one."

Whether to serve these patients coffee or tea was another problem which arose. Hospital officials decided teen-agers might have these beverages if they were used to them.

Other problems, according to Administrator Edith Torkington, R.N., included:

Smoking. Children are asked on admission whether they are used to smoking and whether their parents allow it. Then they are permitted to smoke, but only in a certain area—because of fire laws.

Curfew time. The usual "lights out" hour in the hospital is 8 p.m. Teen-agers were granted an extension to 10 p.m.

Need for privacy. Ceiling-drop curtains were added to meet this need.

Need for extra personnel—not so much for direct nursing care as for observation. Nurses' aides were added.

Visitors. The signs saying "No children under 16" were removed. Adolescent patients are allowed to have visitors of their own age group. Visiting hours are from 10 a.m. to 8 p.m.

The adolescent ward consists of four three-bed units (two for boys and two for girls) and three private rooms. It occupies half a floor. Average occupancy is 14 or 15. Each room is equipped with a lavatory and standard adult equipment.

Assigned to the unit, besides Miss Donnelly, are one other registered nurse and one aide. There are about six student nurses assigned, four of whom are there every other day.

The students, who spend two weeks on the unit during their pediatric experience, get along especially well with the teen-agers, Miss Donnelly says, because they have the common interests of popular music, dating, and dress.

TYPICAL DAY

A typical day in the unit starts at 7:30. Temperatures are taken, and the selective menus distributed, either by a nurse or possibly by an older child who has been in the hospital for a long time.

(*Continued on page 110*)

Patrick Haynes, 12, is skillful at card games, according to his opponent, Jane Donnelly, R.N., head nurse on the adolescent unit.

TOPICS visited the hospital at the same time as Shin Taik Chai (l.), a nurse from the Children's Relief Hospital, Seoul, Korea. She and Mrs. Arline Breskin, chief occupational therapist, watch as James McGlother, 19, normally left-handed, practices writing with his right hand. His left hand is paralyzed.

PEDIATRICS

(*Continued from page 109*)

From 8 to 10 a.m. the patients have baths and treatments. About 11 o'clock the residents may make rounds. At 11:30 lunch is served.

Television sets go on at breakfast time and stay on all day. In the rest of the hospital there are definite hours for viewing programs. Patients over 16—especially boys—prefer radio listening to television viewing.

The afternoon may be spent in games or in occupational therapy. Dinner hour is 4:30. Later, temperatures are taken again. After dinner the usual pastime is watching television until lights go out at 10 p.m.

The usual maximum age for patients in the unit is 18 or 19. The physician judges whether the patient should be called an adolescent. The minimum age is not held at 12. Children of 10 or 11 may be considered mature enough to be in with the adolescent group.

The patients are generally a cheerful group. Miss Donnelly comments that they seem to accept treatment better because they want to be considered one of the group.

They do ask quite a few questions, she says. She, too, pointed out that these children demand more explanations than the little children.

"For example," she said, "they want to know why they cannot turn that little knob on the blood transfusion so it will go in faster; they do not want to hold their arm out straight all day."

An extensive research program in adolescent medicine is contemplated by the hospital. The first research was scheduled to be done in conjunction with other research units at the hospital. Research projects will deal with emotional problems concerning specific diseases — acne, diabetes, obesity, premenstrual tension, and asthma.

Eventually, the hospital hopes to have an active outpatient service, and, through study, to learn firsthand about teen-agers.

The Junior League of Washington in June, 1958, pledged $10,000 annually to the Research Foundation of Children's Hospital for a three-year period, for the partial support of a training and research program in the field of adolescent development and medicine. The first fellow, William R. O'Reilly, M.D., started his fellowship in the summer of 1958.

That the teen-agers like "their" unit is apparent from the comments recorded in the unit's autograph books, one of which was made by a 15-year-old boy during his six-day stay in the hospital. Some excerpts.

"Nurses—oo-la-la!" The boy who wrote this also put down "age, top secret."

"I enjoyed my stay here. The nurses are very sweet. They know what they're doing. The food was good. P.S. The nurses are pretty, too."—12-year-old girl.

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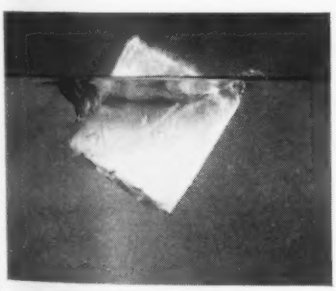

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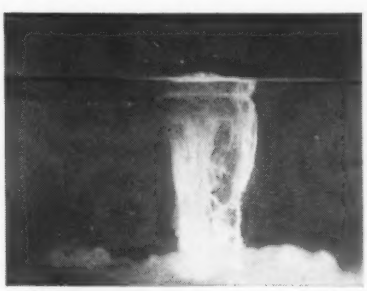

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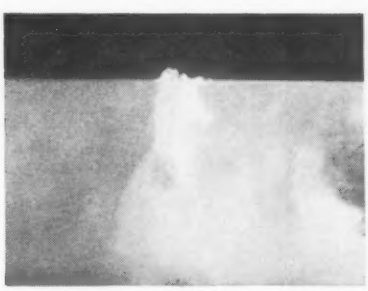

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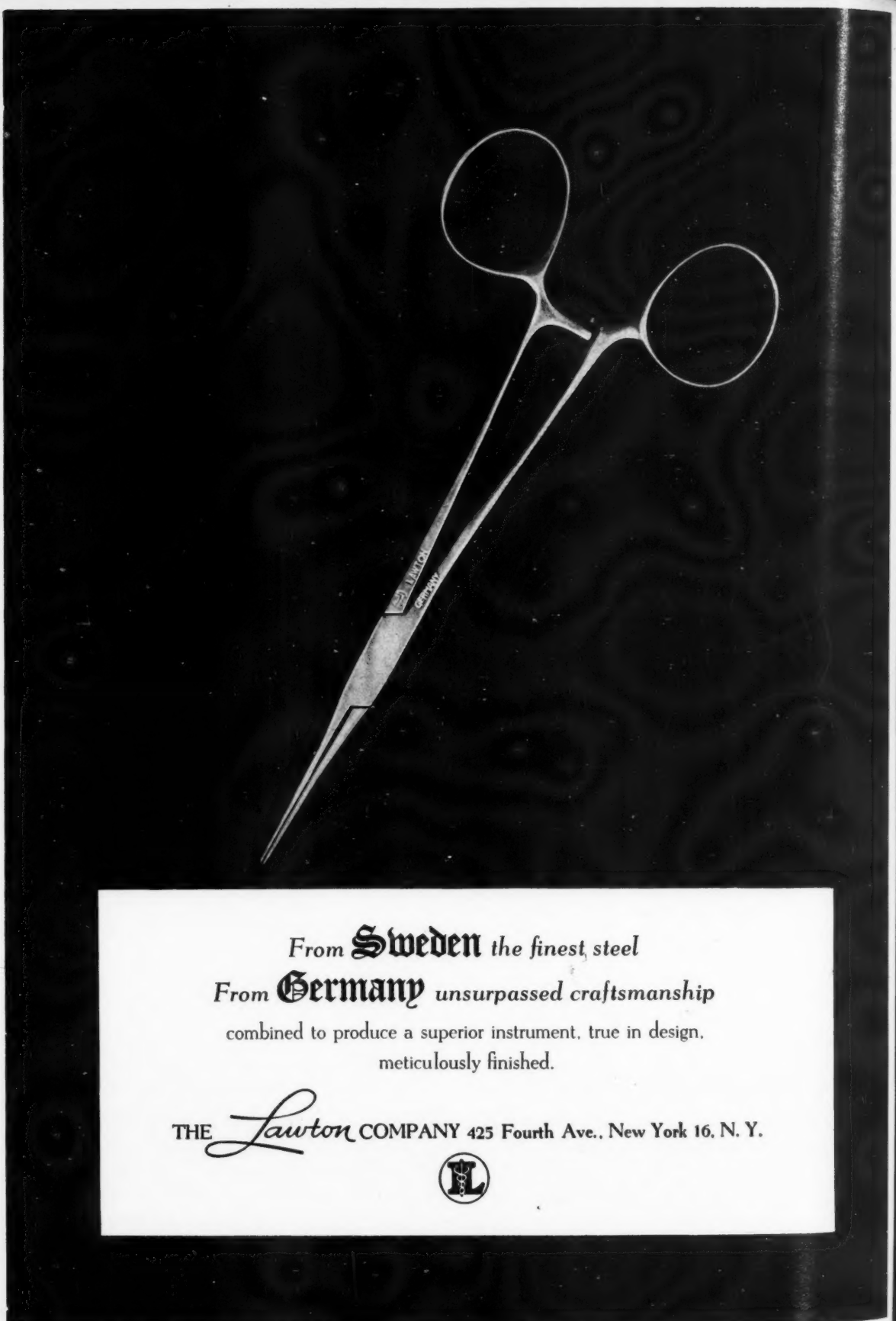

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OB DEPARTMENT

Diaper Services Protect 1,000,000 Babies, Build $50,000,000 Industry

• The first diaper service in the U.S. was a depression baby. In 1931, Albert Lau and his wife, Bess, were at a party where the conversation turned, as it was wont to do during this period, to ways of beating the depression. Mr. Lau, a stock and bond salesman in Chicago's LaSalle Street, who had more time than commissions on his hands, remarked that he'd like to go into some kind of business with no inventory problems.

Someone suggested that a diaper service wouldn't have much static inventory—and it was good for a general laugh. But Mrs. Lau thought about it seriously; liked the idea. Maybe it was a paradox that a luxury service might go over at a time when people were strapped for money; on the other hand, mothers who previously took leisure for granted were either working, or trying to find work, which was even more time-consuming.

Six months later, Dy-Dee Wash, Inc., opened for business with Mr. Lau as president and Mrs. Lau a member of the board of directors. They had six employees and seven customers. In 1933, not being personally interested in expansion, they sold their first franchise, for $150, to two young roommates who had college degrees, good family connections on Philadelphia; austere Main Line, and no prospects of employment.

P. H. Foot, Cornell '32, and T. J. Skillman, Jr., Princeton '31, armed with Dy-Dee's secret scientific and hygienic washing formula—which had been obtained from a large Chicago hospital—opened for business in Narbeth, Pa. They knew only one thing for sure: one of them was going to have to always be the washman, because they had sworn not to reveal the secret formula. Within six months, they had gained 75 customers and lost 20 pounds each.

Currently 1,000,000 babies are customers of diaper services throughout the U.S., and there are services in Hawaii, Alaska, Puerto Rico, Canada, Cuba, England, France, Germany, and other European countries. In this country, diaper service has jumped in dollar stature to more than $50,000,000 annually.

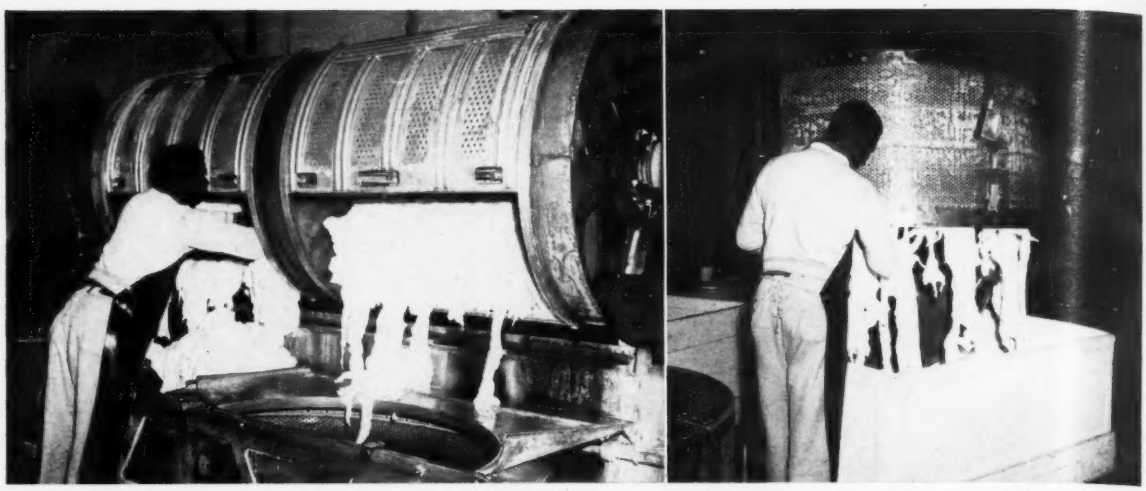
From the beginning, the Laus thought of their service as allied with the medical profession rather than the laundry business. Some laundries did wash diapers (as part of the family bundle, and in order not to lose that business), but with no special care or concern.

Diapers, of course, are subjected to a special kind of soil which provides ideal conditions for the growth of pathogenic bacteria. There was little information in the 30's on how to handle this soil. Even hospital laundries lacked know-how, and relied on autoclaving to kill any live microorganisms after the washing process, caring little for softness or freedom from irritating detergents in the finishing.

That the Laus' approach was becoming known is evident from a comment in the *Chicago Medical Society*

(*Continued on next page*)

One of the major contributions of the diaper service industry to babies' health and welfare is the scientific process evolved—and continuously checked for possible improvement is the protection against diaper rash caused by bacteria or irritating soap residue. The technician is testing the final rinse water for absence of soap residue, and the correct degree of neutralization.



Large automatic washers, left, handle the 81-minute washing process at very high temperatures. Control of the water level, temperature, time, and ingredients used in the sudsing, bleaching, antiseptic, souring and textile softening procedures is rigid and constant. The machine on the right is an automatic extractor, which squeezes the water out of the diapers before they go into the drying machines. Workers, who receive regular physical checkups, know sample diapers will be picked at random for testing by the National Institute of Diaper Services, and are proud of maintaining a high standard.

DIAPER SERVICES continued

Bulletin of August 4, 1934: "From the beginning they sought medical advice in an effort to make this service hygienically sound, and as near foolproof as possible. Physicians became aware that Dy-Dee Wash saved them a great deal of time. Where the service was used, they were not called upon to diagnose diaper rash and tell the mother to have the diapers washed and rinsed properly."

Still, the thought was never out of mind that poorly controlled washing of diapers could lead to epidemics or serious cases of diaper rash which could put an operator out of business. (Conversely, it could help put one into business. A Chicago hospital started using the service in 1932, during an outbreak of impetigo in its nursery, has been a customer ever since, and has had no crises traceable to diapers.)

Early in its history, Dy-Dee Wash had its own medical staff, who served as consultants: Josiah Moore, M.D., of Chicago's Moore Clinical Laboratory; the late Francis Sinear, M.D., Chicago dermatologist; the late William Blumgren, M.D., Chicago general practitioner who had a large obstetrical and pediatric practice; and John S. McDavid, M.D., Oak Park, Ill., pediatrician.

In 1939, the National Institute of Diaper Services, Inc. was organized and the Usona Bio-Chemical Laboratories, of Philadelphia, which had been recommended by the American Medical Association, was given the job of finding out how the industry should process diapers. (Dy-Dee Wash continued its local setup until 1952, when it joined the Institute.)

Tests in the laboratories—quite different, of course, from operations on a commercial basis—had to be standardized. It wasn't until November, 1944, that the Institute set up a regular monthly test program for the entire membership, under which members must periodically submit sample diapers.

The laboratories test four patches, each four square inches, cut from the center of the sample, for intestinal bacteria, respiratory or skin bacteria, and non-pathogenic air group bacteria. (Air group bacteria are referred to as "soil bacteria" elsewhere, but the Institute changed the term because "soil" has a special meaning in the industry.) If any bacteria of the first two groups is found, the diaper will not be passed.

While the early records were good in terms of home washing standards, they were poor in terms of present membership performance. Besides learning how to control a host of variables which would permit recontamination, the membership was plagued with shortages of all kinds. Some members couldn't provide enough superheated water to do a proper wash job; others couldn't obtain enough bleach for proper germicidal action. There was always the chance that a girl in the packaging room would sneeze over a load of clean diapers. The member had his headaches learning the essentials of plant control. A member would get involved and forget to send in a sample diaper. There would be losses of samples in the mail.

The Institute licked most of these problems with a reminder system in the form of a specially printed envelope coded to show the date the sample was due at the laboratory. It also embarked on a continuing educational program with newsletters carrying articles on such subjects as sources of contamination, insect control, dust control, sneezing in the plant, spores and the difficulty of killing them, viruses, mildew, and the importance of keeping soiled diapers away from the clean ones.

(*Continued on page 116*)

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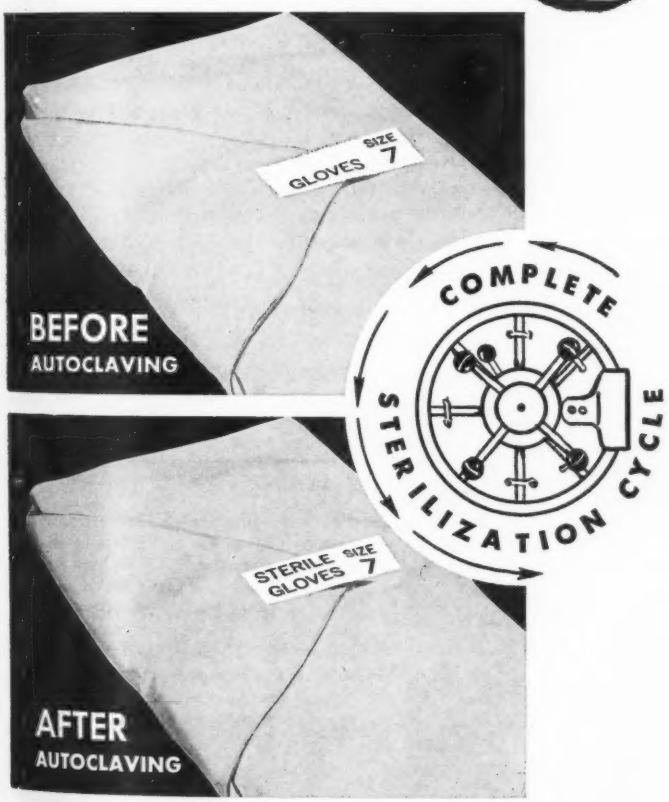

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Diaper services select diaper cloths after rigid tests of many types of weaves by independent textile testing firms. Here, cloths are being tested by the grab method with a Scott tester at the Philadelphia Textile Institute.

DIAPER SERVICES continued

A member whose monthly diaper samples don't measure up to rigid standards must submit repeat diapers until he proves he has found and eliminated the source of the trouble. How well these trouble spots have been eliminated is demonstrated by the calibre of the competition for the annual award for the best record in the washroom, a plaque established by the Dy-Dee Wash of Buffalo, N.Y., three years ago.

At the Institute's 21st annual convention in Miami Beach, Fla. last April, a large segment of the membership was considered, all of whom had no sanitary score of less than 100, and whose pH and zone inhibition readings were within the ideal range. The winner was chosen on fractional points.

Prior to 1940, diaper services used no antiseptics. In 1948, the Institute set up an antiseptic control plan now used by the entire membership. The plan is based on a study initiated by the Institute and carried out by Claude P. Brown, M.D., president and medical director, and Frederic H. Wilson, MT, assistant director of Usona Bio-Chemical Laboratories. Reporting on the biological and chemical control of ammonia diaper rash in the *Journal of Pediatrics*, they stated that phenylmercuric acetate, known as P.M.A.S., was found to be the best antiseptic, being most effective in inactivating urease so that the decomposition of urea to ammonia was inhibited.

Reuel A. Benson, M.D., department of pediatrics, New York Medical College, and his co-workers, Carl A. Lawrence, Ph.D., Los Angeles County Health Department, and Leonard Chavkin, M.S., College of Pharmacy, Columbia University, at the request of the Diaper Institute, compared a series of 100 diapers washed with the usual home method and another 100 washed commercially, and reported in the *Archives of Pediatrics* that "in the home-laundered diapers, seven showed the presence of coliform organisms; 72 were found to harbor bacteria ranging in number from 2,000 to 39,000,000 per fabric; two showed the presence of urea-splitting bacteria; 16 were found to contain soap or detergent; 74 were entirely devoid of residual antiseptic properties.

"Of the commercially washed diapers," they stated none was found to contain coliform or urea-splitting bacteria; none contained residual soap or detergent, and all were found to have retained the antiseptic used in the final rinse to prevent ammonia dermatitis."

Early in 1955, experimental work was undertaken in the use of an anti-enzyme treatment to further prevent diaper rash and odor. Tests showed that babies wearing diapers treated with OdorBloc showed a definitely lower pH both of the skin surface and of the urine-soiled diaper, and virtually no diaper odor was present.

The wash formula check sheet of Dy-Dee Wash, reprinted below, is typical of those used by members of the Institute.

Following the automatic extraction of water, diapers are fluff-dried in spinning tumblers where fresh air is heated to 325 degrees. Only one batch is handled at a time, to insure the customers getting back the same diapers after each washing. Some 4,000 U.S. hospitals use diaper services. Those who prefer to wash their own, can get the help of any Institute member in establishing proper formulas and technics.

WASH FORMULA CHECK SHEET

Operation	Water Level	Temperature	Minutes	Supplies
1—1st Prerinse	14"	110°	2	O&W (clay product to dissolve baby oils and ointments)
2—2nd Prerinse	14"	125°	2	" "
3—1st Suds	9"	145°	10	Soap (92% titer) Ortho Silicate
4—Rinse	14"	160°	4	——
5—2nd Suds	9"	165°	6	Ortho, Soap
6—3rd Suds	9"	165°	6	Additional Soap (as needed to keep running suds)
7—Sterilizing Suds	9"	150/165°	10	Bleach Calgon (to regenerate soap)
8—1st Rinse	14"	170°	4	——
9—2nd Rinse	14"	170°	4	——
10—3rd Rinse	14"	155°	4	——
11—4th Rinse	14"	140°	4	——
12—5th Rinse	14"	120°	4	Hypo Sodium (to eliminate all traces of bleach in fibers)
13—6th Rinse with bluing	14"	110°	5	Bluing
14—Antiseptic Treatment				
a) Souring plus	9"	105°	2	Zinc Silico Floride
b) Anti-enzyme	9"	105°	7	Anti-enzyme plus textile softener
c) P.M.A.S.	5"	105°	7	P.M.A.S. 1:4000 solution

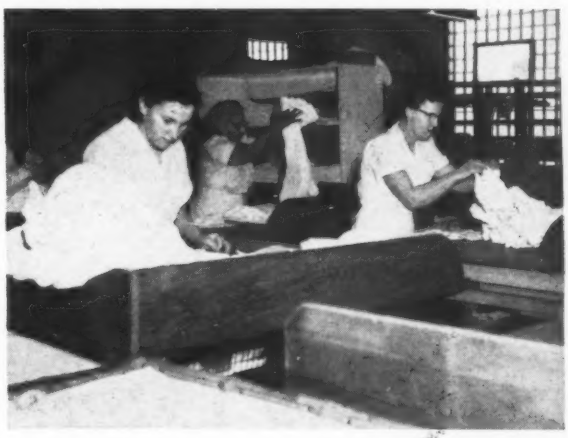
Following the 81-minute washing process at very high water temperatures, water is automatically extracted and the diapers are fluff-dried in spinning tumblers where fresh air is heated to an inlet temperature of 325 degrees.

Clean diapers are inspected, folded, counted, and wrapped. The mother gets back the same diapers each time, which seems to enhance her sense of security. Diapers which are stained or torn are put on the top of the bundle and pinned with a blue disc indicating replacements must be made before the bundle is wrapped, sealed, returned to the net bag, and secured with the customer's identifying oversized safety pin.

Some diaper services have a Baby Care Counsellor, a woman with nursing, social service, or teaching background prerequisites, to give customers advice on baby guidance and hygiene. Some have prenatal classes for expectant fathers.

"All our members," says Mr. Lau, "are more than willing to help a hospital which wants to improve its own washing standards. We have helped various hospitals establish technics and formulas, and we point out the dangers of any control that falls even a fraction below our own standards.

An expert inspector, above, scrutinizes each diaper before the bundle goes to the packaging department. Any which are stained or torn are put on top and pinned with a blue disc indicating replacements are needed. Below, women fold, wrap and seal bundles, which are returned to the customer's net bag, identified by her personal oversized safety pin.



"The fact that the anti-enzyme may affect the tensile strength of the diaper and so increase costs, is not of primary importance. But the fact that the textile softeners, as used, are to prevent or reduce the possibility of mechanical diaper rash, and unless very carefully controlled can render a diaper water-repellant is of very primary importance indeed!"

Over 4,000 hospitals in the U.S., however, prefer to use diaper services for their nursery units.

"Most members of our Institute charge hospitals only the labor and physical cost of washing diapers," says Warren Lau, son of the founders, and vice-president of Chicago's Dy-Dee Wash and Wee Folks, and Evanston's Baby's Valet. "It's to our mutual advantage to cooperate this way. We enjoy the prestige and customer follow-up inherent in serving hospitals, and the hospitals save not only on the cost of equipment, material and labor, but the consistent laboratory research and testing which are the keystone of our industry."

The Book Corner

Your Operation, By Robert M. Cunningham, Jr. New York City: Public Affairs Committee. Pamphlet No. 267. 1958. 20 pp. 25 cents.

Advice and reassurance to persons facing surgery is provided in this pamphlet. Most patients imagine things that will never happen. By providing them with information as to what will actually happen before, during, and after their operation, they are better able to understand the events taking place around them and to them.

Facts about modern surgery in the booklet cover improved diagnostic methods, preparation of surgical patients, and anesthetics and anesthetic methods, operating room staff and equipment, and also a comparison of modern surgery with surgery in earlier times.

A section on an actual operation takes the reader through the removal of a gallbladder, to demonstrate all the care and precautions taken to assure a successful operation.

"After the operation" includes a description of the recovery room and of the average patient's feelings upon awakening.

Information is also given on choosing a surgeon and how much an operation may cost.

* * *

The Organization of a Department of Volunteer Service in Hospitals. United Hospital Fund of New York. 1958. 56 pp. $1.10.

This new guide is designed for hospital administrators, directors of volunteers, trustees, auxiliaries and others interested in the establishment or operation of a volunteer department.

The book covers the philosophy and organization of a department of volunteer service. It also describes the steps essential in the planning of a program and defines in detail a volunteer department in action, including such topics as screening and interviewing volunteer applicants, placement, and supervision. An extensive bibliography and samples of tested forms provide additional information.

Material included is based upon the experience of persons in the volunteer departments of hospitals in and near New York City.

* * *

Nursing Resources. Department of Health, Education, and Welfare. Public Health Service. Washington, D.C. 1958. 40 pp. $.30.

Nursing Resources describes in graphic form the progress of the program of the division of nursing resources.

Prepared under the direction of the division chief, Mrs. Appolonia O. Adams, the booklet contains 20 charts with accompanying text. The first half of the booklet depicts various aspects of nursing in the nation today and the second half presents projects undertaken by the Division of Nursing Resources in its efforts to solve some of the current problems in nursing.

A limited number of copies are available free of charge from this division.

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Personnel Shortage Aided By Scholarship Program

A multimillion dollar effort to help overcome critical personnel shortages in the health field has been announced by the National Foundation. In the form of a greatly expanded scholarship program, it is designed to assist students of medicine, nursing, physical therapy, occupational therapy, and medical social work.

Seeking to encourage a younger age group to select a career in one of these professions at a time when they are looking to their futures, the Foundation will offer at least 505 Health Scholarships each year. With renewal contingent upon scholastic levels, this program will help to provide four years of graduate or undergraduate preparation for recipients who plan to serve in the health field at large.

The National Foundation's present scholarship and fellowship program will also be continued, but modified and expanded where necessary.

Evaluate Health Education At Lankenau Hospital

A research study of the 5-year-old health education program at Lankenau Hospital, Philadelphia, has been made possible through a grant from the Dolfinger-McMahon Foundation, Philadelphia.

The study will be directed by Jack Elinson, Ph.D., associate professor, administrative medicine, School of Public Health and Administrative Medicine, Columbia University, New York City. He will examine the effectiveness of Lankenau's health educational effort as well as its potential for improvement, expansion, and increased service to the community.

The institution's program consists of a health museum, a health film library of 16 sound movies, a talking transparent woman, "Pandora," who describes the organs and functions of her body, expectant parents' classes, and free open forums emphasizing health problems of major interest to the general public.

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HT-2-59

Check List Gives Tips on Annual Hospital Meeting

The Massachusetts Hospital Association, in its October *Newsletter*, offered a check list of items to consider when setting up and conducting an annual hospital meeting in accordance with the governing rules of each hospital. The pointers, in brief, were phrased in the following questions:

1. *Program Preparation*

   a. Have all trustees been asked for suggestions as to program and speaker?

   b. Have other key persons, such as corporation members, medical staff chief, and director of volunteers, had an opportunity to make suggestions?

   c. Has a committee been set up to plan and conduct the program?

2. *Program*

   a. In addition to holding the corporation members' meeting and the trustees' annual meeting, is any public meeting planned to which employees, volunteers, and the general public can be invited?

   b. If a public meeting has been scheduled, has the business meeting been timed so the public meeting won't be delayed?

   c. Have at least one trustee, the administrator, and one corporation member been prepared to give a short, interesting report to the public and the press, through the public meeting using visual aids when possible?

3. *Business Meetings*

   a. Have the corporation members and trustees been informed in advance of their meetings of the problems facing the hospital?

   b. Have arrangements been made in advance for the greatest participation feasible in the presentation phase of the program by trustees and corporation members?

   c. Is a buffet supper or a luncheon possible, to promote maximum attendance?

4. *The Public Meeting*

   a. Are the meeting facilities adequate and comfortable?

   b. Will there be attractive displays and tours, emphasizing patient and community service, both in advance of, and after, the public meeting?

   c. Has a program been arranged which has variety and is entertaining as well as informative?

   d. In addition to inviting the general public, have specific invitations been issued to all members of the hospital family and their families, as well as to clergymen, journalists, and government officials residing in the community served by the hospital?

   e. As part of the public meeting, is it possible to have a dinner to be paid for by those attending, or some light refreshments donated by some supporter?

   f. Has a main speaker been engaged whose very presence will attract the public and press to hear him?

   g. Has the hospital business report to be presented to the public been reduced to a minimum?

   h. Has a short, concise statement been prepared emphasizing hospital service to the patient and the community, which can be distributed and which is interesting enough to be taken home?

5. *Visual Aids*

   a. Have all the uses which may be made of visual aids, i.e., view graphs, flip charts, films, and slides, been explored to present the hospital report, both at the business and the public meetings?

   b. Where limited use of expensive visual aids may preclude purchase, has consideration been given to the possibility of renting or borrowing the aids from some large organization in the community?

   c. Has consideration been given the use of some short film or slides to illustrate the work carried on in the hospital, or describing some recent medical advancement at the institution?

6. *Publicity*

   a. Has advance publicity been prepared particularly on some item of general interest to which announcements of the business and public meetings can be tied, coupled with an invitation to the public to attend the open meeting?

   b. Has the hospital person most influential with local newspaper editors gone to see them to ask for their cooperation in securing public interest in the hospital annual meeting?

   c. Has a short review of the annual report and any other timely matters been prepared and delivered to the newspapers as far in advance as possible, so that the news will have some chance of being included with any other news of the meeting that may be of greater interest to the public than the hospital report.

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ACHA Names Educational Head

Alfred Van Horn III, for seven years assistant director, American College of Hospital Administrators, has been named to supervise the College's educational activities. He will take over staff direction of institutes and regional members' and preceptors' conferences as well as other educational functions.

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bronchial instruments • **192** prostatic instruments • **8** anastomosis instruments • **157** mouth instruments • **91** enucleators • **158** nails • **37** cardiovascular instruments • **187** post-mortem instruments • **228** splinter forceps • **80** drills • **24** bone cutting forceps • **148** lobectomy scissors • **139** kidney instruments • **177** periosteotomes • **65** cystic duct forceps • **13** applicators • **282** urinary bladder instruments • **296** plastic surgery instruments • **32** bullet forceps • **117** Gyn. instruments • **160** needles • **185** plastic surgery scissors • **76** dissecting scissors • **293** wire cutting and shaping forceps • **44** cautery tips • **11** angiotribes • **84** dura scissors • **150** manometers • **216** sequestrum forceps • **171** operating scissors • **280** umbilical cord instruments • **74** directors • **21** blades • **96** esophageal instruments • **211** screws • **164** nippers • **246** suture forceps • **152** mastoid instruments **83** dura instruments • **53** [illegible] • **120** head bands • **210** [illegible] • **27** Bovie cords • **182** placenta forceps • **268** trachoma forceps • **16** axis traction handles • **235** staplers • **142** laminectomy instruments • **35** cannulae • **140** knives • **86** electric cords • **176** palpebrators • **229** sponge forceps • **46** chisels • **70** dermal instruments • **20** bougies • **133** incubation instruments • **82** drillers • **201** rhinoplastic instruments • **38** cardiovascular scissors **79** dressing scissors • **144** laryngeal instruments • **253** current instruments • **72** diagnostic instruments • **92** enucleation scissors • **162** neurological instruments • **247** suture [illegible] • **51** clip forceps • **7** abdominal scissors • **200** rheostats • **75** dissecting forceps • **178** pliers • **242** stop cocks • **132** intestinal instruments • **18** axis traction forceps • **202** fistula scissors • 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**100** eye instruments • **208** scalpels • **209** vaginal forceps • **124** hooks • **154** microtome knives • **265** towel clamps • **18** bayonet forceps • **145** ligature carriers • **270** traction instruments • **240** syringes • **9** anesthesia equipment • **130** inhalers • **288** vaginal instruments • **59** contractors • **250** tenacula **22** bladder instruments • **194** gauze scissors • **208** sigmoidoscopes • **84** episiotomy scissors • **218** shears • **237** vessel holding forceps • **105** fracture instruments • **25** bone instruments • **128** hysterectomy instruments • **244** stomach instruments • **61** craniotasts • **90** endoscopes • **217** serrefines • **279** umbilical cord scissors • **52** clip racks • **181** needle holders • **286** uterine forceps • **39** cast cutters • **245** tissue forceps • **33** burrs • **116** guillotines • **283** urological instruments • **14** cystoscopes • **271** vulsellae • **53** cannulae • **107** gas [illegible] instruments • **272** tubes • **55** conchal forceps • **199** retractors • **168** occluding forceps • **204** saws • **55** conductors • **180** pins • **239** stethoscopes • **286** uterine scissors • **259** tongs • **62** cutettes • **236** stenosis instruments • **173** packers • **278** twist drills • **196** razors • **254** thumb forceps • **135** iris forceps • **213** screw holding forceps • **273** trephines **98** extension instruments • **175** perforators • **257** tongue depressors • **221** slitters • **271** transfer forceps • **118** hammers • **209** [illegible] • **285** uterine instruments • **124** hemostatic forceps • **176** perineal scissors • **223** sounds • **267** trachea tubes • **113** gorgets • **252** thoracic instruments • **104** forceps **189** probangs • **260** tonsil grasps • **129** impactors • **226** specula • **277** tumor instruments • **179** pile clamps • **222** snares • **112** goitre [illegible] instruments • **264** 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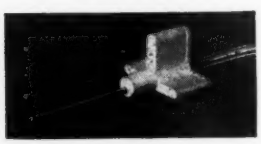

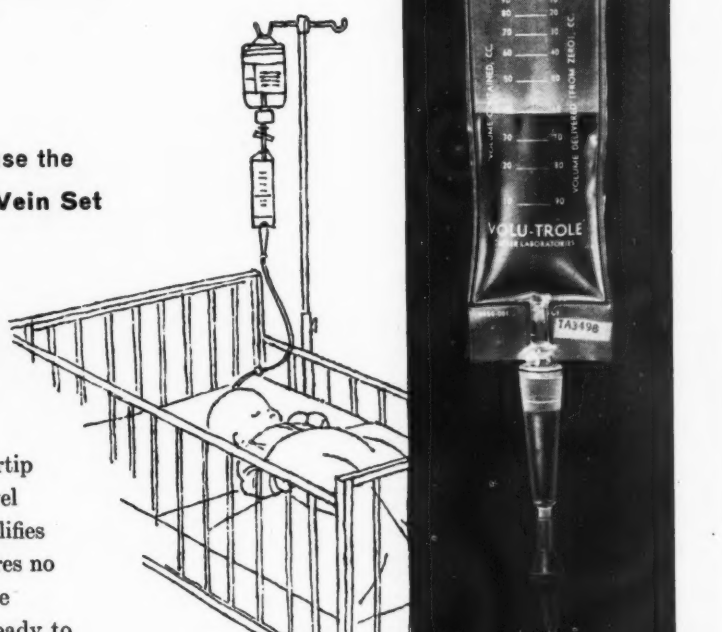

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HOSPITAL Topics OR

Official bulletin for the
Association of Operating Room Nurses

Principles and Art of Supervision

By Betty Ann Beaudry, R.N.*

• That supervision is a necessary evil and that supervision is essentially snoopervision are concepts of the past. The stereotype of the supervisor as an officious witch is a thing of the past, too; the newer image, stressing teaching, support, and understanding, is fast becoming prevalent.

This broadened responsibility for the supervisor, these myriad tasks, make it imperative that those who supervise possess a philosophy for life and for nursing that is strong and meaningful. If principles can be defined as fundamental truths—as a foundation from which to work, it seems self-evident that the supervisor needs principles in addition to a working philosophy—to give base and meaning to technics and to aid in the elimination of chance decisions.

"The man of affairs without science is like the physician who has fallen out of the anatomy and physiology he may once have known; within limits he may be a shrewder and abler practitioner than an academic professor; but this will be at the cost of being stationary . . . *to principles*, sooner or later, the subtlest craftsman has to bow his head; for, even while his hand is on his tools, by theory contingencies and complications are being detected and eliminated, and processes shortened and economized."[1]

Some Principles of Supervision

Supervision:

(1) Should be an integral part of the organization, with clear definition of lines of authority

(2) Should distinguish between instructional and administrative functions

(3) Should be a clearly defined and progressive organization of activities

(4) Should be characterized by scientific knowledge, skill, and objectivity

(5) Should be a democratic, cooperative process

(6) Should improve the nursing service through the personal and professional growth of the nurse

(7) Depends on clear channels of communications

(8) Should be creative

(a) Should provide opportunity for the exercise of originality and for the development of unique contribution

(b) Should shape and manipulate the environment

(9) With administration, must provide facilities for operation.

ART OF SUPERVISION

The word *art* is used in here in the context of the definition by C. I. Barnard in his book *The Functions of the Executive*[2]: "the use of skill or ingenuity, and the systematic application of knowledge in the accomplishment of a desired result."

Nursing is an experience in the art of human relations. Supervision is an experience in the art of human relations. If human organization affects the recovery of patients, then the effective functioning of these humans becomes ever-important, and certainly their positive performance depends on leadership.

(*Continued on next page*)

*Assistant Professor of Nursing, University of Texas School of Nursing, Galveston. This article is based on a talk given before the Texas Association of Operating Room Nurses, Dallas, Tex., May, 1958.

*Test the Morale and Productivity of Your Group and Your Supervision Practices**

The following check list was distributed to participants in the operating-room nursing institute, Walter Reed Army Medical Center, Washington, D.C., January, 1958, by Frances Ginsberg, R.N., consultant in aseptic practice, Bingham Associates Fund, New England Medical Center, Boston. In granting permission to reproduce it, Miss Ginsberg specified that credit be given to Boston University School of Nursing, "where, as I recall, I originally became sensitized to this form."

	Yes	Partly	Not Sure	No
1. Does each of my people feel fully accepted in the group? Does each have a strong sense of belonging?				
2. Do I give each one an opportunity to participate in making decisions that affect him and the group?				
3. Does each one have a high opinion of the teamwork, competence, and achievements of the group?				
4. Does my group see **me** as friendly?				
5. Helpful?				
6. Responsive to their needs?				
7. Do I avoid being threatening?				
8. Do I see each of my people as total personalities?				
9. Do I really understand each one's needs?				
10. Do I use my understanding of those needs judiciously to motivate each one?				
11. Do I avoid detailed direction and tight control?				
12. Do I avoid using authority and pressure to get production?				
13. Do I consult with my people as a part of making decisions?				
14. Do I avoid being critical or punitive?				
15. Are my attitudes toward my people helpful and constructive?				
16. Do I spend most of my time on my leadership functions?				
17. Do my people feel as though I am really interested in them as individuals?				
18. Do I always try to fix the mistake instead of the blame?				
19. Do my people know that I feel productivity is important?				
20. Do my superiors allow me to participate in decisions made above my level that affect me or my group?				
21. Do my superiors allow me to function with considerable authority and responsibility?				
22. Do I constantly seek to reduce costs and keep them down, consistent with quality standards?				
23. Do I have low rates of turnover and absenteeism in my group?				
24. Do I use general supervision methods?				
25. Do I receive general supervision?				
26. Have I answered all the above questions with sincere searching objectivity?				

Strive to get all your answers in the "Yes" column and keep them there by studying your people and your relationships with them; by studying your superiors and your relationships with them; by studying yourself and your own behavior.

*This form is from the Boston University School of Nursing.

Supervisors are leaders in nursing. Traditionally supervision has been, in part, an inspection, and authority has been that of one person. Today the emphasis is on the workers—on helping and planning with them—on working in cooperation with many others. Modern supervision is based upon a democratic concept which implies:

Ability to adjust in an ever-changing situation.

Cooperation and confidence between supervisor and supervised.

Taking individual differences into account.

Ability of the supervisor to evaluate work by impersonal standards.

Here are some of the criteria you might use in deciding whether your performance as a supervisor is as a skilled technician or is the performance of an artist in supervision.

You fill many different roles as you carry out your responsibilities in supervision:

(1) As a *leader,* do you know yourself pretty well—who you are, and what you are? Do you know your personnel? Do personnel feel more secure because you are in the driver's seat? Are you comfortable as a kind of "middle man" between your staff and top administration? Do you view leadership as an opportunity to serve those supervised, or is it a privilege of exercising personal power over them? Do you fundamentally like people?

(2) As a *communicator,* are you sold on the suggestion that supervision *is* communication, that an all-important aspect of communication is listening? Are you always aware that communication goes three ways—up, down, and across? Have you thought through statements such as "Life is an emotional experience" and its implications for supervision? The logical, intellectual reasoning we grab at so frequently is quite lost when we can't pay our bills, or when someone we love has let us down.

(3) As a *researcher,* are you cost-conscious? Do you accept a responsibility for creating new methods of operation? Are you receptive to new ideas? Are you experimenting with many different ways for doing today's job, or are you at the same routines as yesterday?

(4) As a *teacher,* do you feel that you have a moral obligation to develop people? Is this feeling inherent in your philosophy of supervision? Do you encourage the effective nurse to further study, to preparation for higher positions and more responsibility? Do you re-direct and improve the work of the average and mediocre nurse? Are you still debating the use of the technician, or are you concentrating on determining how these people may be used safely and effectively?

(Continued on next page)

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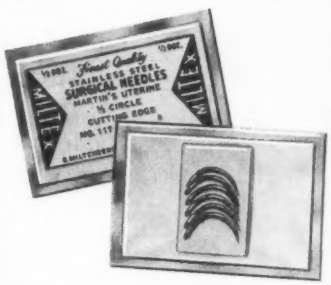

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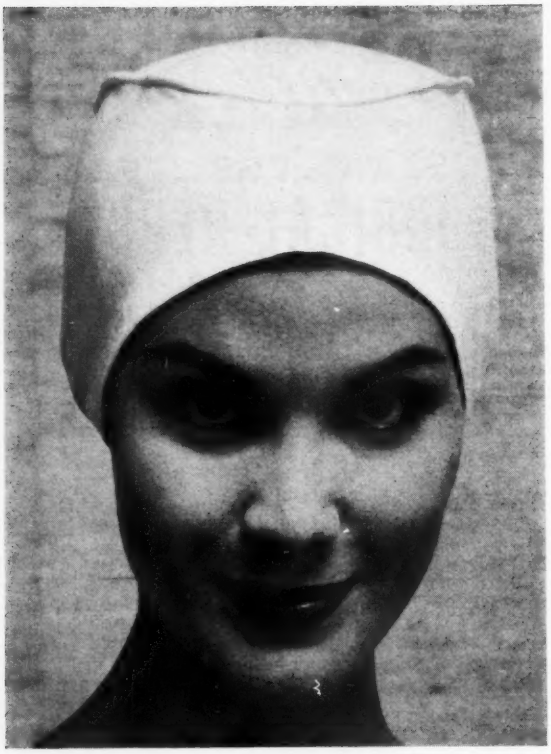

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(5) As an *evaluator*, are you thoroughly equipped with the know-how in relation to the operating room, so that you are comfortable and secure in evaluating others? Are you evaluating total situations? For example, are you thinking and planning for the future—wondering how the personnel in your department can be of real value in terms of intensive-care units—what special skills you can offer here to the different clinical areas?

Are you evaluating the postanesthesia recovery rooms with surgical recovery room as to the implications for staffing, for maximum care to patients, for efficient operation of the *total* nursing service? Your nurse administrators need these surveys, and it seems appropriate to expect that they will come from within the organization.

(6) As a *consultant*, have you made it clear that you are ready to serve all areas in relation to your special skills, that you accept your department as a service department? For instance, consider the problem in relation to the identification of patients. Is there competition between your department and clinical areas as to who has this responsibility, or is the approach that of a consultant who defines the problem, accepts it as a problem in nursing, and then, by virtue of an intimate knowledge in the particular area known as O.R., proposes a working solution?

The supervision of people is an art, and, as in the field of medicine, its successful practitioners have a difficult time putting into words what they do.

I feel very strongly that there is no more effective way to acquire an art than to serve an apprenticeship under a skilled master of that art. There are great differences of opinion on this subject. However, literature strongly suggests that each succeeding generation of management personnel has been thus trained.

"Certainly, facts and data, insofar as they are known, can be taught in schools and classes. The student artist must be taught the proper use of linseed oil and turpentine, but knowledge of these facts will never make him paint a masterpiece; the practical application of even a science, such as physics, is, in the final analysis, an art."[3]

The supervisor has a grave responsibility in leadership. Her goal should be to so lead that the many who serve in her department will feel, when through, that they have served an apprenticeship under a skilled master of the art of supervision, and because of her they are ready to do for others as she has done for them.

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[1]T. E. Allbutt, "On Professional Education," quoted in L. Urwich, *The Elements of Administration* (New York: Harper and Brothers, 1943).
[2]C. E. Barnard, *The Functions of the Executive* (Cambridge, Mass.: Harvard University Press, 1938).
[3]Quoted. Original source not known.

New O. R. Design Concepts

By Paul Nelson*

• What is a hospital? Ideally, perhaps, a hospital is an instrument of healing—an inanimate extension of the doctors and nurses who staff it and breathe life into the human tissues under their care. It is a working tool.

More often, however, the *actual* hospital, even though designed to be protective of its patients, is little more than an assortment of bricks, windows, beds, and associated equipment packed into a preconceived form unrelated to the basic functions involved. The edifice could just as well be a school, or an office building.

Not many hospitals today are designed to be flexible enough to meet the varied and changing needs of the individual members of the society they serve. And this lack of flexibility is, to me, their basic fault. I like to think that this picture is at last changing, and that I myself have had a hand in this process with the design of the Franco-American Memorial Hospital in St. Lo, France.

Flexibility was, as far as economically feasible, built into every element of this modern hospital. It was the key concept that lay behind the design of the exterior and every floor and every room of the interior.

There were three novel architectural concepts which played the primary roles in introducing efficiency and flexibility to the St. Lo hospital. The first was the egg-shaped operating room, which we shall discuss in detail here. The others, which we may mention in passing, were the flexible grid facade and the built-in color therapy.

The idea of the egg-shaped operating room originally emerged from my design study for the Suez Canal Hospital in Ismalia, Egypt, in 1935. Today, there are 16 of these operating rooms in use throughout the world—in France, Belgium, and Denmark.

The egg-shaped operating room represents, I believe, the first complete synthesis in operating room design. All relevant factors are integrated into a control form. As a result, the room meets my basic definition for the superior hospital design—it does become not just a space, but an instrument. The oval-shaped room has improved flexibility and positive control of asepsis techniques—two basic needs of the operating room.

The 71 lighting projectors, spaced around the curved ceiling so as to provide a completely controllable flood of light, are all focused on one lighted sphere of 16 inches in diameter into which the operating field is moved. This "lighting planetarium" is mounted flush into the curved ceiling. There are no projecting fixtures whatsoever to catch dust and harbor bacteria.

The projectors, because of the natural curve of the ceiling, are located above, on three sides, and below table level. The operating field can be illuminated from any angle, even horizontally or from below the horizon. And since the fixed, lighted sphere is located on the longitudinal axis of the oval room, the table is designed to be moved between fixed guides, on top of which are located the different outlets for gaseous and electrical connections. This permits a much higher degree of sepsis control than has ever before been possible.

The unique lighting system makes it possible to vary the lighting on the table without any movement of fixtures. Each cluster of nine lamps creates the equivalent of one standard hanging operating light.

During the operation, the surgeon can increase or decrease the number of lights playing on the table, or he can change the direction of the illumination in accordance with changing needs without moving the initial, basic lighting or the patient. Because the lighted sphere and operating table are located on the longitudinal axis of the egg-shaped room, he is easily able to determine which set of lights, to right or left, are required to facilitate the operation. He then calls the letter that identifies a particular cluster of lights, or else notes the individual numbers inscribed under each projector. A non-sterile nurse then presses the appropriate but-

(*Continued on next page*)

*Ketchum and Sharp
Paul Nelson
Associated Architects

ton on the control panel located on the side wall of the room. This system gives the operating surgeon the exact lighting he needs, instantly and effortlessly, without his ever touching the lighting fixtures himself.

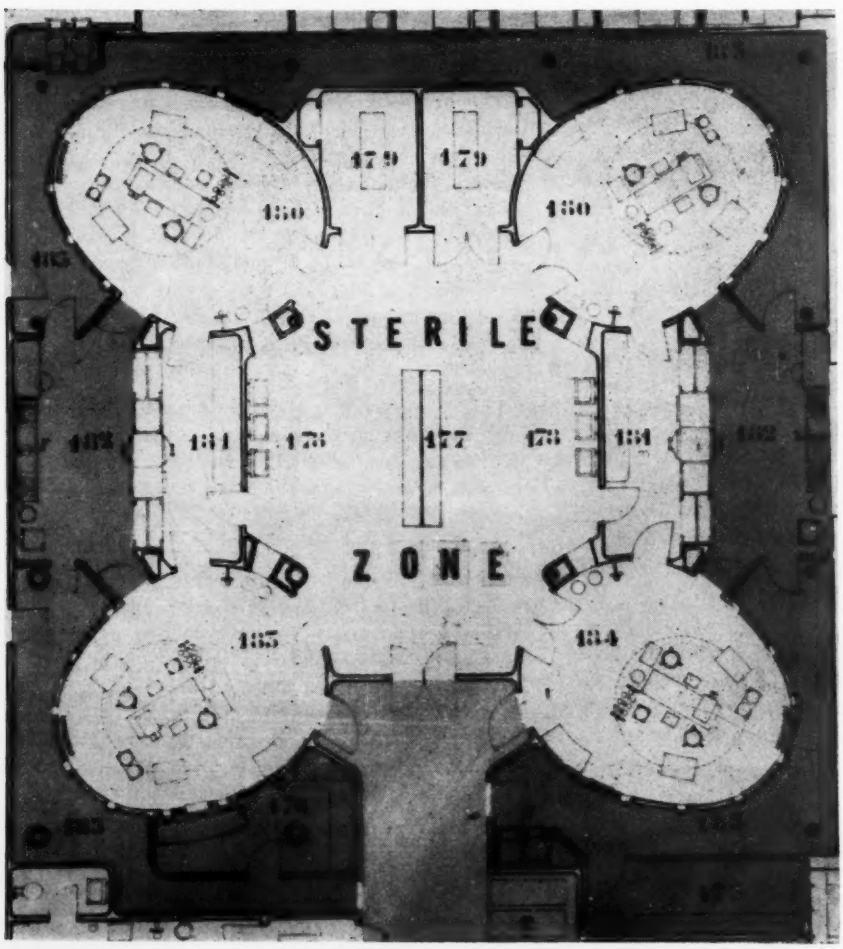
The principle of the control form manifests itself in other ways in the egg-shaped operating room. The operating circle is located at the far end of the room, rather than in the center. This brings lights nearer for specific, delicate operations such as perineal and brain surgery, at the same time restricting most traffic to the other end of the room, isolating the patients and surgeons.

After the planetarium lighting system, perhaps the most important design element of the egg-shaped operating room, in aiding it to attain status as a surgical instrument, is the functional, isolated arrangement of the complementary areas of the surgical suite into sterile and non-sterile zones with positive and negative air pressures. All sterile zones are separated from non-sterile zones, yet both are in complete functional arrangement with regard to the nerve center of the plan, the operating circle. Thus, the egg-shaped operating room engenders carefully controlled asepsis, affecting not only the surrounding functional areas but those of the entire hospital.

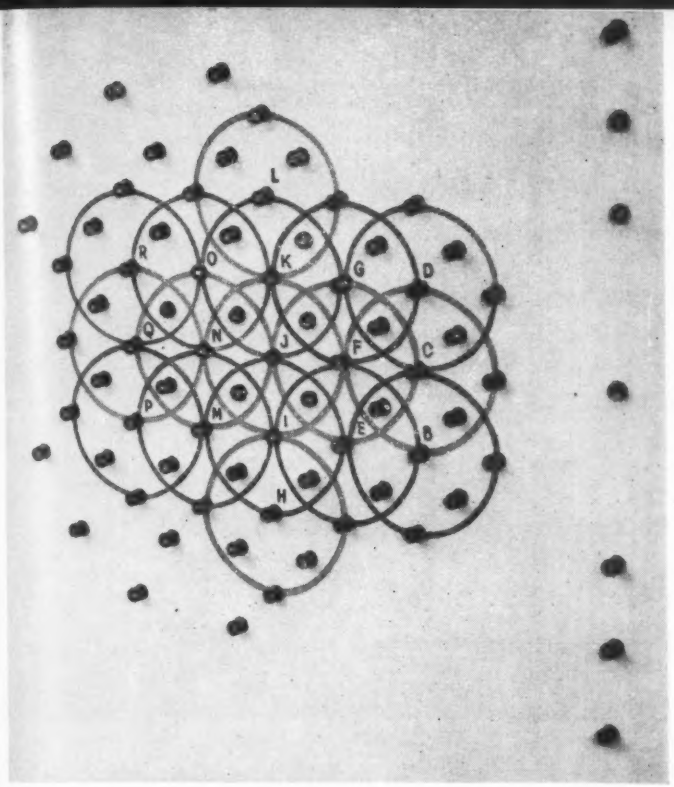
At St. Lo the clean-up room has no connection with the sterilizing room, except through a double-end sterilizer. However, it is connected with the non-sterile corridors which encircle the sterile zone. This permits the transportation of infected linen and refuse from the operating room to the chutes without re-entering the central sterile corridor. Also, two of the operating rooms at St. Lo hospital are connected directly to the entrance corridor, so that major septic cases can enter and leave without penetrating the sterile zone at any time. In addition to the four egg-shaped operating rooms, grouped in pairs, the sterile zone consists of a central room giving on the four operating rooms and containing, for each pair, a surgeons' scrub-up, a sterilizing room, and an induction room for patient waiting and anesthesia.

Now that the novel, egg-shaped operating rooms have been in use for some time, it has been possible to evaluate their effect on the patient. At first, it was feared by myself and my associates that the unfamiliar shape of the room might have an unfortunate psychological effect on the patient. In practice, it has worked out just the opposite. The

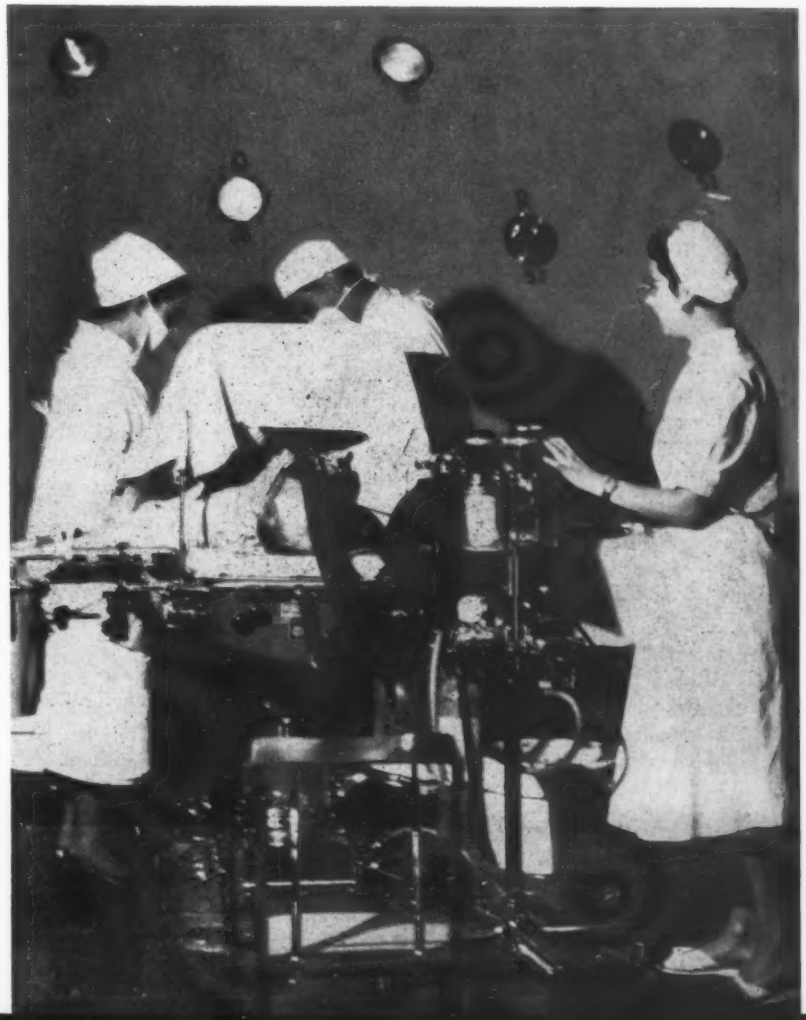
(*Continued on page 130*)



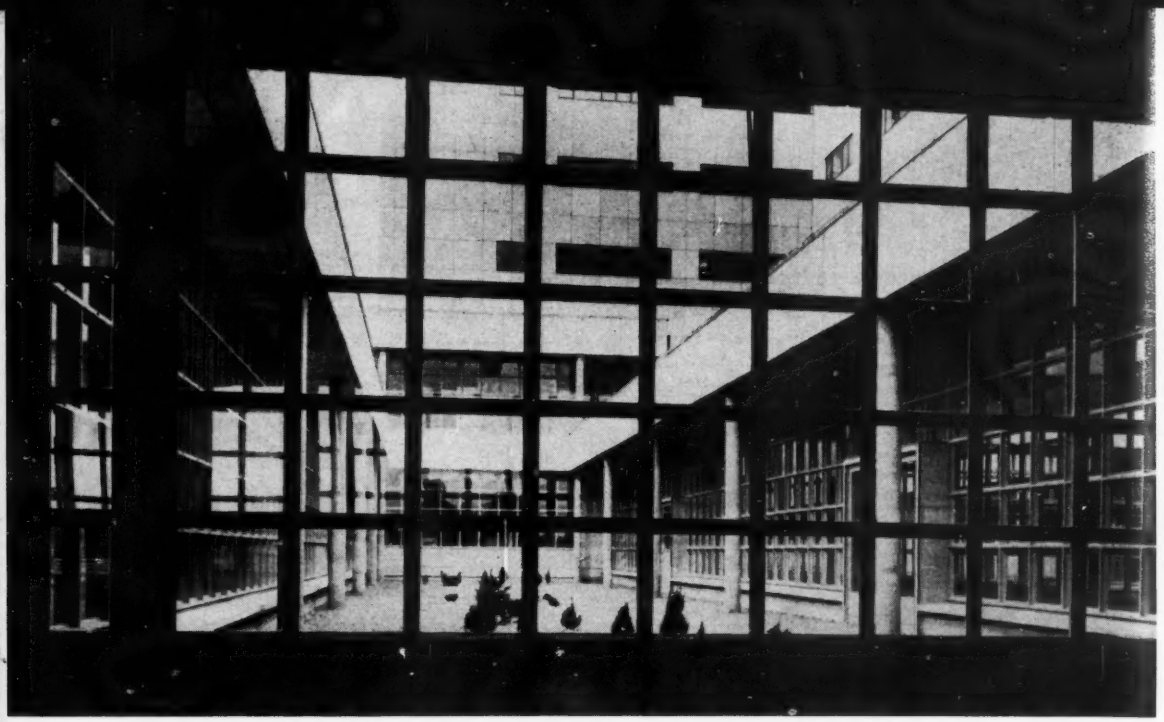
The operating suite at St. Lo Hospital stresses highly controlled asepsis. Non-sterile zones (toned areas) are carefully separated from sterile zones. Clean-up rooms (182) connect with sterilization rooms (181) only through double-end sterilizers. Non-sterile corridors (185) encircle the sterile zone, thus permitting transportation of infected linen and refuse from the operating room to the chutes without re-entering the sterile zone. The two lower egg-shaped operating rooms are connected directly with the entrance corridor, so that major septic cases can enter and leave without penetrating the sterile zone.



This lighting control panel, left, is located on one wall of the egg-shaped operating room, and is operated by a non-sterile nurse during the operation. Control buttons are arranged to correspond with the placement of lighting projectors in the ceiling. Circles show the degree of overlap of lighting clusters when trained on the operating field. Lettered buttons control the clusters indicated by the circles around them.



In use, the egg-shaped operating room, right, is designed to perform as a surgical instrument. No hanging fixtures encumber doctors and nurses, and gas and electric outlets are set flush into the base of operating table for direct accessibility and ease of cleaning. The light projectors in the ceiling are also set flush. They are clearly numbered to allow the surgeon to designate exactly the lighting he requires, without taking his hands from his instruments.



Looking from the entrance lobby into an interior garden court, the "open" feeling sought by the use of prefabricated grill sections in the flexible grid facade construction of St. Lo Hospital can be clearly seen. The design of the grid was also planned to create the feeling of a pleasingly organized architectural environment, which was enhanced by the application of brilliant colors.

Use of this grid illustrates the principle held by the designers that the perfect hospital must be designed for maximum efficiency and effectiveness, but with its physical elements easily adaptable to changing requirements.

effect of the planetarium design on the conscious patient is soothing—to put him at ease and in a restful state. Another factor that probably has a deep effect is that the precise organization of everything visible suggests the natural security of an "organized environment," and therefore builds patient confidence. Certainly, the general clutter and confusion in a standard operating room often has the opposite psychological effect. The sense of order, the pleasing color tints, and even the "natural" shape of the egg-shaped operating room seem to have a particularly good effect on women during delivery, according to staff surgeons at St. Lo. The functionality of the room also has a noticeable effect on the operating team, in the experience of St. Lo hospital, inviting concentration and teamwork in the entire staff.

Dr. Sylvain Blondin, a leading surgeon of Paris, upon observing the egg-shaped operating room in use, commented: "This room, in its arid and strict nudity . . . makes fault, error and negligence difficult, if not impossible."

With all its advantages, however, the operating room of St. Lo's hospital is not the ultimate answer. St. Lo's egg-shaped operating rooms have merely defined more specifically the performance required of each piece of equipment by interrelating them all. Lighting is now intimately concerned with built-in flexibility, with asepsis, with correct ventilation, and other factors, and thus becomes specifically definable. However, the room must now be evaluated in terms of American means and needs, if it is to takes its place in the U.S. hospital scene. Particularly in the lighting, this becomes evident. Shortly, the Illuminating Engineering Research Institute hopes to survey completely the optimum lighting system for an egg-shaped room.

Already, it is known that *contrast* and not quantity or light is what counts most in the operating room. It is a fact that the more light you use, the more you need. Your eyes rapidly become accustomed to the light level. Correct contrast in lighting, however, will give optimum light for the operating surgeon. This principle, already resolved by research, is yet to be completely explored and determined as it applies to the correct design of operating rooms.

Another revolution that is sure to take place in operating room design in the near future is complete prefabrication. Here, again, the egg-shaped room points the way with its flush, built-in lighting fixtures and its logical, functional zoning arrangement.

Such a development will provide extensive economies for the administrators and architects of new hospitals, insuring a continuing process of uniformity and perfection through scientifically controlled methods of production. Shortly, we should be able to purchase complete operating rooms just as simply and precisely as we now can purchase operating tables and other equipment, through prefabrication techniques.

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By Dorothy W. Errera, R.N.

Bate, J. G., and James, Ursula: "Salmonella Typhimurium Infection Dust-Borne in a Children's Ward." *Lancet* 2:713, October 4, 1958.

An incredible series of outbreaks of *S. typhimurium* infection in a cubicle ward in a children's hospital put the ward out of use for 11 months. Beginning with the admission of a child with nonspecific gastroenteritis, an epidemic spread to include seven outbreaks in 11 months.

Isolation technics were sound; stool cultures were routine on all admissions; and food handling in the main kitchen was good. The kitchen was subject to strict bacteriologic controls, and food was supplied to other wards which remained free of infection.

After the first outbreak, the ward was emptied, cultured, scrubbed, and fumigated with formaldehyde. The plumbing was checked. Nursing and domestic staffs were examined, and no excreters were found.

The only finding was salmonella in the meshes of the wicker basket of the weighing machine. This was enthusiastically replaced with a model amenable to germicidal disinfection, and the ward was reopened.

The first patient admitted was a child with bronchitis. Admitted with a negative stool culture, he had diarrhea three days later. Soon there was a second case. The routine of emptying, cleaning, and searching was repeated. This time, one nurse was found to be a symptomless excreter.

This frustrating sequence of events was repeated seven times. By this time, determination to find the cause led to giving purgatives to nurses involved in all the outbreaks, but they did not evolve as carriers, even with the drastic encouragement.

Ward and contents were again attacked. Every item visible was sterilized by steam, fumigated with gaseous formaldehyde, or burned. Brooms, floor cloths, dish cloths, and dusters were reduced to ashes. But the phoenix arose.

Throughout the epidemics, house-cleaning technics had been investigated, and samples of soft broom sweepings had never grown salmonella. But a floor polisher with a vacuum dust bag, because it was not considered a vacuum cleaner, had never been emptied. One year after the beginning of trouble, its contents were cultured, and searchers were rewarded with a high concentrate of salmonella—phage type 2. The organisms were still viable after 10 months!

The ward was reopened. All sweeping was abandoned; vacuum cleaners fitted with disposable bags were installed. The floor polisher was modified to include a paper container. The ward has been open and in full use for a year with no infections reported to date.

[It is interesting that on the second and third outbreaks, one nurse, two orderlies, and two porters were found to be excreters. The sole duties of the porters were handling soiled linen.]

Schwabacher, Herta, Salsbury, A. J., and Fincham: "Blankets and Infection—Wool, Terylene or Cotton?" *Lancet* 2:709, October 4, 1958.

This study admits as a first premise that treating woolen blankets with a quaternary ammonium compound will inhibit bacterial growth and minimize discharges of wool fluff.

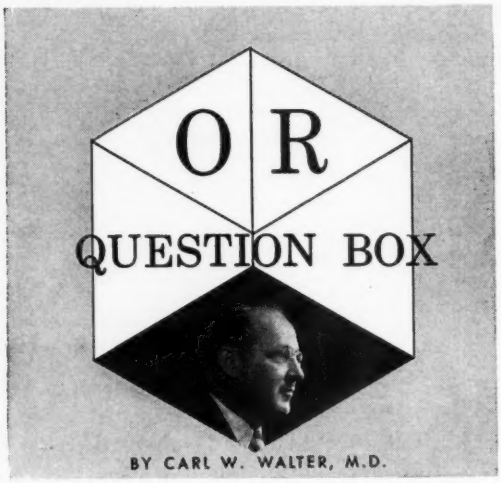
In two experiments, using air-borne counts as criteria, frequent cleaning of blankets, controlled use, and substitution of other blanketing materials for wool are documented. In the test ward, all blankets were washed on the patient's discharge; every patient admitted was furnished clean blankets; and ambulatory patients were forbidden to use bed blankets in their meanderings. In the control ward, blankets were washed at the discretion of the ward sister, and only those from infected patients received routine terminal laundering.

There was a consistently low bacterial count in the test ward, and only four percent recovery of *Staphylococcus aureus*, phage type 80, as opposed to a 27 percent recovery in the control ward.

In the second experiment, Terylene, cotton, and wool blankets were considered. The first two were washed at 100°C.; the woolen blankets received the usual treatment with a germicidal compound. In the time the cotton blankets were used (four weeks), there was no case of cross-infection, despite the admission of a patient with multiple staphylococci-caused lesions. The reduction of bacterial air counts when cotton blankets were in use was greater than when Terylene was used.

The Terylene blankets shrank and were hard to the touch after 20 washings. They also freed considerable dust and fluff into the air during bedmaking. Shrinkage in cotton blankets was 10 percent. There was no deterioration after 50 washings, and no dust or lint problem during bedmaking.

The patients claimed equal comfort with cotton blankets and appreciated the freedom from the extra weight of wool. The authors suggest routine laundering of new cotton blankets to remove inherent dust and to shrink the meshes to a closer weave which renders the fabric more pliable.



Assisted by Dorothy W. Errera, R.N.

Q. If a muslin- or paper-wrapped sterile package is dropped on the floor, is it safe to use, or must it be resterilized?

A. If the floor were dry and free of dust, a package could be assumed safe to use after being dropped. But both of these conditions are unpredictable and most unlikely in any surgery; hence, it is safer to declare all articles dropped to the floor unfit for use until resterilized.

Q. We are willing to try shaving our patients in surgery but have a few questions. Some people still want to do dry shaves, which I think are uncomfortable for the patient and messy from the point of view of controlling fine hairs. We have difficulty with razors and blades. We can't find one that saves the patient from scraping and gives a clean shave.

A. A stiff lather, preferably from a dispenser can of soap, is essential to control the hair and desquamating epithelium which the razor removes. The use of a straight-edged razor with a detachable blade is the simplest way to shave body hair. Any nurse can learn such a technic quickly.

Using a new blade for each shave eliminates the problem of disinfection to control the spread of homologous serum jaundice. It also assures the patient of a keen edge and a relatively atraumatic shave.

Q. I heard recently that the quaternary ammonium compounds are contraindicated as agents to follow pHisoHex in the preparation of the surgical field. Is this true?

A. There is no incompatibility between pHisoHex and the quaternary ammonium compounds. The rumor which you heard probably stemmed from the fact that alcohol, which is often used as a solvent for quaternary ammonium compounds, leaches hexachlorophene which has been deposited in the skin by the pHisoHex, and in this way robs the skin of the residual bacteriostatic effect of the hexachlorophene. On the other hand, the quaternary ammonium compounds deposit a bacteriostatic film on the skin, based on a different germicidal principle, so that the end result is the same.

Q. Our surgeon says we should not prepare our patients with soap and a quaternary ammonium compound. Is there any good reason for his statement?

A. Soaps and quaternary ammonium compounds are incompatible. In the presence of soap, the germicidal effect of the quaternary ammonium compounds is weakened. Also, dermatitis results in a large percentage of people who contact one of these compounds when they have residual soap on their skin. Hence, care must be taken to thoroughly rinse off any traces of soap before applying one of these germicides.

Q. What is your opinion of built-in wall suction versus a portable unit? Is it true that a whole wall has to be torn down if anything goes wrong in a built-in system?

A. Wall suction makes it possible to eliminate another bit of portable equipment from the crowded operating room—a factor of importance in any campaign to minimize air-borne bacteria. The vacuum pump for these units is usually easily accessible and of no great moment from a servicing angle. The outlet for this equipment can be located in the same panel with power outlets.

Q. We were taught to dry hands and arms up to the elbow after scrubbing. One surgeon claims it is only necessary to dry the hands, because there is a great chance of contaminating the towel when drying the arms. Do you feel it is right to leave the arms wet when donning a gown?

A. Toweling after scrubbing has become obsolete. Electric hand dryers provide a safer, more economical, and more thorough means of drying the skin. The expense of laundering, inspecting, sorting, packaging, and sterilizing towels is avoided. The contamination of scrub suit, gown, and environment is eliminated. Skin is more thoroughly dried, and chapping is minimized. The germicide in post-scrub dips and sprays usually evaporates on the skin quickly enough to make drying with a towel unnecessary.

Q. Can you give me any information on keloids? We are having quite a few develop in our patients. Some doctors think they might be due to suture material. I sterilize all our silk on cardboard at 250° F. for 30 minutes.

A. Many factors are responsible for keloid formation. Some keloids may be due to infection; some to chemical irritation. Others are related to the healing process in individuals.

Wrapping suture material on cardboard or wood is a poor idea for two reasons: (1) the latter two materials become superheated in the sterilizer, char, and are likely to weaken suture material; (2) it is very likely that the suture material will become contaminated with chemical implants from the cardboard or wood.

Charting Infection Sources Important in Staph Control

6th Annual Symposium on Antibiotics, Washington, D. C.

• *The following panel discussion recognizes the problem of staphylococcal infection as one concerning the community and all departments of a hospital—surgery as well as general patient care. The TOPICS editors felt that operating room nurses, as well-informed members of a hospital and civic community, would be interested in the summary aspects of staph as discussed below.*

Panel Discussion

Robert I. Wise, M.D., Jefferson Medical College, Philadelphia, Moderator

Chester W. Howe M.D., Boston University School of Medicine

George G. Jackson, M.D., University of Illinois College of Medicine, Chicago

J. Vernon Knight, M.D. Vanderbilt University School of Medicine and Hospital, Nashville, Tenn.

Dr. Priscilla Rountree, Royal Prince Alfred Hospital, Sydney, Australia

Thomas E. Shaffer, M.D., Ohio State University College of Medicine, and Children's Hospital, Columbus

Carl W. Walter, M.D., Peter Bent Brigham Hospital, and Department of Surgery, Harvard Medical School, Boston.

Dr. Rountree: The problem of staphylococcal infection is only beginning in America. Australia has about a 2-year start in dealing with its staphylococcal infection problem; the course of development in the United States can be compared.

Hospital strains of organisms are now spreading to the community and measures of control will have to include this consideration.

Physicians must remember that staphylococcal disease is an infectious process and as such warrants isolation. A case of typhoid would not be tolerated on an open medical ward, yet patients with wounds exuding large numbers of staphylococci are not only bedded in open wards but allowed to wander freely, shedding their organisms everywhere they go.

Dr. Knight: It is estimated that 40 to 60 percent of the general population harbor a strain of coagulase-positive staphylococci in their noses and on their skin and, in addition, carry the same staphylococci widely distributed on their body surfaces. Operation of a hospital would be impossible if 50 percent of the population in any one area had to be eliminated.

Dr. Jackson: Identification of the carrier should be made first, then a program developed to block spread from the carrier to the environment. It should be remembered that carriers with respiratory infections harbor larger numbers of staphylococci than carriers without infections.

The persistence of a particular strain is variable. About two-thirds of the carriers exchange their strains with those in the community and do not maintain any one strain over a long period.

Dr. Wise: The most dangerous carriers in a nursery are those with active infection. It is not difficult to correlate an outbreak of infection in a nursery with a doctor or nurse who has an infection on some part of the body.

It is all well and good to talk of identifying carriers but few hospitals are equipped for elaborate phage typing. Indeed, with one man-hour needed to type two cultures, most hospitals are months behind in their surveys. One is

(*Continued on next page*)

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hesitant to fire carriers from the hospital because they will only be replaced in a short period of time by other carriers.

Dr. Howe: There is no point in categorically firing carriers of phage type 80-81 if there is no outbreak of infection in the hospital.

Dr. Rountree: The whole idea of removing carriers from the hospital and replacing them with other personnel is a waste of time as long as the hospital is a dirty place in which to work.

A guide to determine the hazardous carrier is to consider anyone with a history of recent lesions as dangerous. In my experience, nasal carriers of type 80 almost always have had a recent infection. Eighty percent of the carriers on one nursing staff had such a history.

Dr. Wise: It is important to school the carrier to control himself and his distribution of organisms. Personnel with recurrent skin infection must, themselves, help institute programs of good hygiene to correct the vicious cycle of infection and re-infection. This program should include bathing with germicidal agents four to six times daily; cleaning infected areas four to six times daily; erecting waterproof barriers around infection; protecting mattresses and pillows with covers that can withstand frequent laundering; daily changing and prompt laundering of soiled linen, pajamas, underclothing, and similar items.

Dr. Rountree: Nasal ointments containing a mixture of antibiotics are of some use in providing a chemical barrier between carriers and the general population. Antibiotics that are never administered parenterally or used for general therapy should be chosen and two such antibiotics should be used in combination to eliminate the possibility of resistant mutants' developing. Experience shows that this treatment, if conscientiously applied, will reduce the staphylococci in the anterior nares of 80 percent of the people treated.

Some carriers, however, cannot be cured and in others, recolonization occurs. In the latter instance, it appears that people who have contaminated their environments will continue to pick up organisms. These nasal carriers cannot be controlled unless the immediate environment is rid of infecting material.

Dr. Shaffer: Nurseries are not and never will be ideally safe for babies. In the first week of life susceptibility to infection is high. If babies could be sent home after the first 24 hours, they would be better off. Babies by nature of size, invite crowding in a nursery; colonization and infection are swift.

Dr. Jackson: It is a mistake to speak of the ubiquitous staphylococci. Every isolate represents a separate strain getting in and out of the community. Some strains have increased virulence. Some produce specific pathologic lesions.

Understanding of the ecology of staphylococci in the community has been slow and incomplete but in-

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creased understanding is coming with the development of technics for identifying and following strains in a community. Little data is available on the susceptibility of the host but there are indications that this susceptibility is related to exposure and general health.

Data is suggesting a cycle of five years for ingress and egress of bacteria. Peak incidence appears to vary. The role of seasonal variations in staphylococcic infection still remains a question. There may also be a variation in the preponderance of the type for certain lesions as evidenced by the disappearance of staphylococcal enteritis which was a problem until 1955.

Nasal colonization occurs prior to clinical infection and there is a prolonged latent period between hospitalization and manifestation of infection. It is mandatory to keep up surveillance in a community between recently discharged postpartum mothers and their babies—either by questionnaire or by telephone.

After infection of the baby, there is a tendency for the organisms to spread within the family. Three to six months after discharge, 75 percent of mothers investigated carried an epidemic strain of staphylococci with lesions. Fathers were colonized to a lesser degree but lesions were found in some.

The community becomes seeded by hospital epidemics, but mothers are not the source of epidemics. Hospital personnel are infected from patients. The close contact of nurses with babies is ideal for spread and sadly, certain nonprofessional personnel are not convinced of the benefits to be gained from using good technics.

Some benefit in detecting carriers of epidemic strains is gained by culturing personnel before assignment to nursery floors and again after a month of work. Carriers of epidemic strains should be refused employment and existing personnel who become colonized should be reassigned. One measure which should be rigidly enforced to prevent contamination of the environment by colonized babies is frequent washing to prevent the airborne spread of dry vernix.

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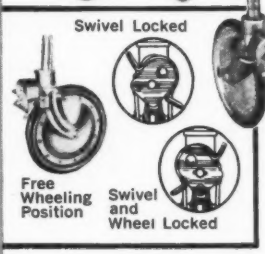

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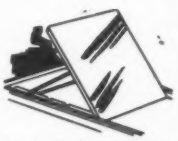

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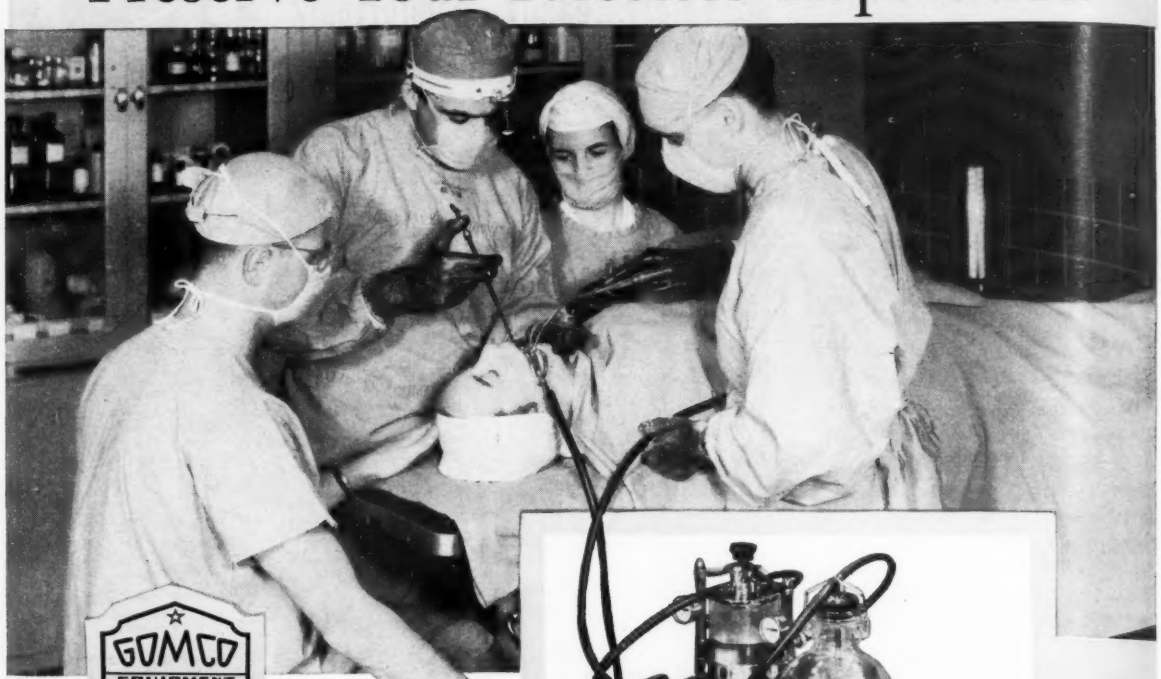

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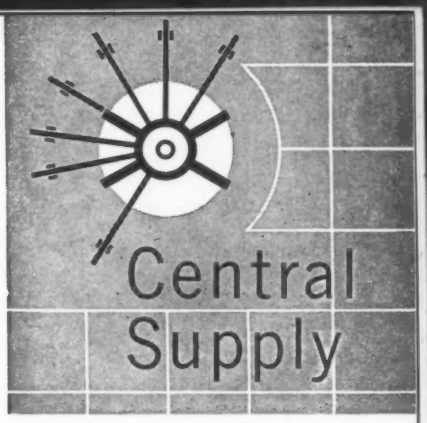

Hospital Study Favors Disposable Syringe Units

By George N. Johnson*

This is the third in a series of comparative cost studies. The first two appeared in the April and June, 1958, issues.

The use of injections to treat illness has increased in recent years. At present, the nurses in Evangelical Deaconess Hospital, a 92-bed hospital, give an average of 82 injections per day.

Considering the volume of injections now being given and the possibility of an increased load which would result from a proposed expansion program, the Director undertook an investigation of both the hospital's present method and the feasibility of using disposable needles and syringes.

METHOD OF SURVEY

A quantity of Stylex disposable needles and syringes sufficient for this study was obtained from Pharmaseal Laboratories, Inc. These needles and syringes consisted of a single unit of plastic syringe and attached needle, encased in an airtight paper and cellophane package. The entire unit was sterile.

The disposable combination needle and syringe was tested under controlled conditions and compared both for effectiveness and cost with the present system involving reusable needles and syringes.

The study was approached in three ways:

—Analysis of nurses' time and effort of the two systems

—Detailed cost studies of all elements of expense involved in the two systems, including nursing time

—Evaluation of attitudes as to the advantages and disadvantages of the two systems.

OBSERVATIONS AND FINDINGS

The two methods may be described as follows:

1. Present Method — Reusable Needles And Syringes

In the present procedure needles and syringes are sterilized on each ward, since there is no central supply department. Syringes (which are not interchangeable) and needles are placed in a hot water sterilizer 9″ x 10″ x 20″. After sterilization they are placed in enamel boats and are ready for use.

Supplies of syringes on each floor are as follows:

First Floor	5—2cc	3—5cc
Second Floor	4—2cc	
Third Floor	6—2cc	
Nursery	2—2cc	
P.O.D.	1—2cc	

These stocks are inadequate and resterilization of syringes is sometimes necessary to complete the number of injections needed at one time. Since one hour is needed before the syringes can be properly reused, there is a loss of nurses' time both in preparation and distribution. In trying to make up this time, nurses sometimes remove the syringes too soon or use 5 cc and 10 cc syringes to complete their work.

Another factor, which exists because of the shortage of professional help, is the constant shifting of nurses from floor to floor; changes in tours of duty from day to evening to night, and the reassignment of duties on the unit. In view of these changes the only insurance for adequate standards in handling syringes is an in-service training program. Since there is none available, the standards differ from nurse to nurse, according to her experience. Some of the techniques observed are open to question; for example, no sterile towels are used on the injection tray. The only cover for needles before injection are cotton balls dipped in alcohol.

The following technique is typical:

Preparation

1. Set up tray containing cotton balls in alcohol emesis basin
2. Place tray beside the syringe and needle boats
3. Lay out medication tickets on tray
4. Bring out medication (many must be mixed before using)
5. Attach plunger to proper barrels and attach needles
6. Remove medication from vial or bottle
7. Wrap needle with cotton ball
8. Place on tray.

Injection

9. Give medication to patient

Cleaning

10. Place used syringe in emesis basin
11. Return to utility room
12. Separate elements of syringe and needle and place in container containing liquid soap.
13. Rinse syringe and needle in hot water then place in sterilizer. (In cleaning, no attempt is made to swab out barrel or hub of needle. No attempt is

(*Continued on next page*)

*Administrator, Evangelical Deaconess Hospital, Brooklyn, N. Y.

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made to sharpen the point of the needle.)

The time required to mix medications and sort plungers and barrels adds to the procedure time, but the short cuts in distribution and clean-up reduce the total operation. It must be emphasized that the maintenance of sterile technique is open to question.

2. Expendable Needles And Syringes

The following simple and safe method was utilized by the disposable unit:

Remove medication card from file

Collect tray with:

Container of 2 x 2 sponges in alcohol
Waste basin
Vials of medication
Proper syringe packets

Preparation:

1. Wash hands
2. Place requisition cards on tray with container of sponges
3. Clean off tops of vials
4. Remove syringe, needle and needle cover from packet
5. Twist plunger into barrel then put syringe on medication card
6. Remove needle cover
7. Insert air then withdraw medication from vial
8. Replace needle cover and place on medication card on tray
9. Carry tray to bedside
10. Prepare injection area then inject
11. Replace needle cover then break syringe and put in waste basin

COST OF PRESENT METHOD

Operation	Average Time (seconds)	Number of Injections Observed	Total Time (seconds)
Preparation of injectible at the nursing station	93.5652	46	4304
Time spent by nurse going to and from nursing station and patient	15.0800	47	709
Injection procedure	78.7872	47	3703
Disassembling and rinsing	10.6842	38	406
Sterilization, cleaning and putting into sterilizer	50.7777	18	914
Removing from sterilizer	57.1304	23	1314
	036.0247	219	11350
Time per injection	306.0247 seconds		
Labor time per second	.00048 seconds		
Labor cost per injection	$ .146891		

Supplies	Number Purchased	Cost
Syringes	356 (inc. 300, 2cc plus 56 est. 5cc and 10cc)	$ 401.72
Needles	6,156	680.17
Electricity for sterilizer @ .025 per KWH—20 hrs. per day (4 stations).—Sterilizer uses 2 KWH per sterilization of 1 hours		
	6 hours per day (1 station)	1538.00
		$2619.89*

Injections per year est.	29930
Supply cost per injection	.0875

*Alcohol, green soap, and cotton ball costs were not included in the survey.

12. Wash hands between patients
13. Clean up
14. Chart

Nurses adjusted quickly to the new syringe units. Within 2 days the medication nurse on day duty found it possible to complete her injection in less time and still have time to assist the doctors and help the desk nurse with charting and other administrative work.

ANALYSIS OF COST

Following is a summary of questions that had to be resolved in order to achieve an effective determination of comparative costs:

—How much is it costing the Hospital for each injection?

—How much would it cost to use the disposable needle and syringe unit?

—Which procedure insures the maximum safety to the patient?

All basic data were obtained by the Director of Nurses from detailed time-and-motion studies made under actual working conditions. It was found that seven days of study were necessary to obtain sufficient data for accurate conclusions. See chart at left.

Additional costs which should be considered by cost accounting procedure, will include fringe labor costs such as the following:

Factor	Percentage Of Annual Labor Costs*
Social Security	2.5%
Sick Leave	4.3
Workman's Compensation	1.1
Free or reduced Hospitalization	2.4
Two weeks Vacation	4.1
Six paid Holidays	2.5
TOTAL	16.9%

On a direct labor cost of .146891 the fringe labor cost comes to .024824 per injection.

Summary of Costs

Present Method

Labor for procedure	.146891
Supplies and utilities	.0875
Fringe labor costs	.024824
Total cost per injection	.259215

*National Survey and Hospital Cost studies.

COST OF EXPENDABLE SYRINGE COMBINATION

Operation	Average Time (seconds)	Number of Injections Observed	Total Time (seconds)
Preparation of medication	62.6304	46	2881
Total administration to patient	63.1304	46	2904
Clean-up	2.9782	46	137
TOTAL	128.7390	46	5922

Time per injection	128.7390
Labor cost per sec.	$.00048
Labor cost per injec.	$.061794
Fringe labor costs (16.9%)	$.010443

Total Cost per Injection Expendable Syringe Combination

Labor cost	$.061794
Supply cost	.150000
Fringe labor costs	.011443
	$.222237

(*Continued on next page*)

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COMPARISON OF COSTS PER INJECTION

	Present Method	Expendable Syringes
Labor	$.146891	$.061794
Supplies	.087500	.150000
Fringe labor	.024824	.010443
	$.259215	$.222237

COMMENTS ON THE SURVEY

Cost alone is not the total measure of hospital acceptance. Acceptance by the nurses, patients and medical staff is also an important factor. Using the present procedures there is no sustaining, high standard of sterility for injection. Frequent short cuts in technique can result in infection, although there are no statistics available.

By using a pre-sterilized syringe combination, high standards are possible.

Nurses are constantly complaining of dull and plugged needles. They must also bear the brunt of patient complaints since patients may feel that the pain of an improper injection is the result of poor technique. The greater percentage of these complaints can be eliminated by the use of the proper syringe and needles. It is interesting to note that there were no complaints from patients when the expendable syringes were used.

In a hospital of this size, (92 beds) use of expendable needles and syringes should be considered primarily for the ability to control the sterility of needles and syringes used in injections. Since it is difficult to maintain a stable nursing staff with adequate supervision, the use of presterilized syringes and needles reduces the risk of infections.

The cost factor is of extreme importance because the tangible result of use of the expendable needles and syringes is reflected in higher purchasing costs. However, this tangible cost can be more than matched by increased nursing care time available because of their use. If this saved time is utilized properly there is a savings in the overall cost of injection.

At our hospital the saving has been made effective by increased use of graduate nurses' time for additional patient care and administrative assignments. This advantage coupled with the increased safety to patients has made the use of these products worthwhile.

New Treatments Reduce Hypertension Death Rate

The mortality rate of malignant hypertension has been reduced from 90 percent within two years, the rate of eight years ago, to about 15 percent, according to a study of a series of patients reported by John H. Moyer, M.D., professor of medicine, Hahnemann Medical College, at a recent hypertension research conference in Philadelphia.

Dr. Moyer credited a combination of three new treatments for the progress. In his study, representing the worst form of hypertension, he used a Rauwolfia Serpentina extract, ganglionic blocking agents, and chlorothiazide.

Chlorothiazide, available only since last January, removes salt and water from tissues.

One of the newest drugs, Catron, product of Lakeside Laboratories, is a monoamine oxidase inhibitor which has an effect similar to that of ganglionic blocking agents but without their drawbacks, according to Albert Sjoerdsma, M.D., chief of experimental therapeutics, National Heart Institute, Bethesda, Md.

Plan Study of Hospital Use Of Electronic Data

A study on how electronic data processing equipment may best be adapted for hospital use will be conducted at Baylor University Hospital, Dallas, Tex., by the Hospital Research and Educational Trust of the AHA.

The study, made possible by a $52,000 grant to the trust from the John A. Hartford Foundation, will require about four months. Areas to be surveyed include patients' billings, accounts payable, perpetual inventories, medical records and statistics, payroll, and insurance.

The work will be conducted in co-operation with Daystrom Systems, division of Daystrom, Inc., La Jolla, Calif., and John Diebold and Associates, Inc., New York City.

Sweet Pea Seed May Aid Study of Arthritis Cause

Aid in determining the cause of arthritis and other degenerative diseases may come from the seed of a common variety of flowering sweet pea.

Three Iowa scientists have used two specific chemical compounds, B-aminopropionitrile and aminoacetonitrile, derived from the sweet pea seed, to create in animals symptoms of degenerative diseases found in man.

I. V. Ponseti, M.D., A. A. Castellani, Ph. D., and Carla Castellani-Bise, Ph.D., department of orthopedic surgery, State University of Iowa, Iowa City, reported at the American Medical Association's Council on Foods and Nutrition, University of Wisconsin, that similarities between symptoms observed in animals fed the compounds and in human patients do not necessarily imply identical cause. However, they added, the discovery of the bio-chemical changes brought about by the use of the compounds in animals may help in understanding possible causes involved in human degenerative diseases.

Hospital Air Conditioners Studied as Germ Carriers

Air conditioning systems in hospitals are being neglected as far as cleanliness and sanitation is concerned, and are carriers of microorganisms, reports A. N. Solberg, Ph.D., dean of research, University of Toledo, Ohio.

Dr. Solberg and Harold C. Schaffer, also at Toledo U., under a grant from the American Society of Heating and Air Conditioning Engineers, have studied the effectiveness of wet sorbents in air conditioning systems for removing airborne microorganisms.

A machine using lithium chloride gave the cleanest air, said Dr. Solberg. Ninety-seven percent of the microorganisms were removed

with this machine, including all sizes and types from 20 microns down. He indicated that certain filters will remove microorganisms from the air for a short time but they have drawbacks. The ordinary glass fiber filter, for example, will remove the germs for a maximum of three days. After that, they go through the filter.

Pointing out that a great many organisms will circulate for a long time within an air conditioning system, Dr. Solberg stated as many microorganisms were found in an operating room as in any normal occupied space. One operating room had an air conditioning outlet directly over the operating table which contained numerous pathological microorganisms. There were no figures on staphylococcus because specific microorganisms had not been identified.

The research team also found a system using spray-type humidifiers to maintain the 55 percent humidity. Here, water in the humidifier was a breeding place for microorganisms. Humidifiers that use open water, live steam condensing in ducts, and wet refrigeration coils are microorganism breeding places.

However, air conditioning systems have been installed in hospitals to control humidity and temperature, and not to remove microorganisms, Dr. Solberg pointed out.

The American Hospital Association has not studied Dr. Solberg's work and is not in a position to comment on it, stated L. E. Bates, M.D., secretary to AHA's Council on Professional Practice.

Air conditioning

A 72-page catalog for accurate selection of central station air conditioning units from two new Weathermaker lines for conventional and multizone applications includes product features, mechanical and guide specifications, and examples using all material. Performance curves and rating tables for hot water as well as steam coils are also provided. Equipment that previously took up to two or three hours to figure can be chosen in five minutes. Work pads of the charts in a larger size are also available as a separate item. Carrier Corp., Carrier Parkway, Syracuse 1, N.Y.

Two Booklets on Aging Published by AMA

Two new booklets dealing with problems of aging have been published by the American Medical Association's Committee on Aging.

Medicine's Blueprint for the New Era of Aging outlines a positive health program for older citizens and suggests means for communities to implement it.

A Report on the AMA Planning Conference on Medical Society Action in the Field of Aging is a verbatim report of all papers presented at the recent conference sponsored by the AMA Committee on Aging and the Council on Medical Service.

Michael Reese Hospital Opens Research Center

Michael Reese Hospital Medical Center, Chicago, has opened the Ruth Cummings Research Pavilion, a $1,200,000, 5-story building. The pavilion has 27,000 sq. ft. of laboratories and offices, with two pathology floors, a floor each for microbiology and cardiovascular research, and portions of the other two floors for metabolism, pediatrics, biochemistry, and hematology.

Each laboratory is individually air-conditioned, and has taps for compressed air, steam, gas, vacuum suction, hot, cold, and distilled water.

Your Pet May Be A Walking "TB Mary"

Pets are a growing tuberculosis hazard to human beings, warns an international scientists' committee.

The group, made up of experts of the United Nations' food and health agencies, particularly singled out dogs, cats, parrots, and monkeys as potential sources of the disease.

Correction

"Streamlined Setup at Indianapolis General," in the December issue, designated Beatrice Miller, Ph.D., as director of nursing education, Indiana University Medical Center. Dr. Miller is director of nursing service and education, Indianapolis General hospital.

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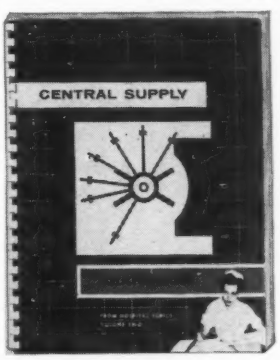

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Care and Sterilization of Rubber Gloves—Carl W. Walter, M.D., and Dorothy W. Errera, R.N.
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TRADE TOPICS . . .

Wyeth Labs' Chairman Retires After 15 Years

Harry S. Howard, chairman, Wyeth Laboratories, has retired after 53 years in the pharmaceutical industry, 15 of those with Wyeth. He will continue as a director of American Home Products Corp., Wyeth's parent company.

Other changes at Wyeth include the appointments of Leonard C. Riesch, Ph.D., as managing director, Philadelphia production plant, and Robert S. Warner, M.D., as medical assistant to the vice-president. Dr. Riesch, formerly production manager of the Philadelphia plant, succeeds M. R. Brenner, who has retired. Dr. Warner, on Wyeth's medical staff for two years, was formerly with the American Heart Association.

Frank P. Gage has been named financial director, Wyeth International, Ltd. Previously he was vice-president, First National Bank of Jersey City, N.J.

J. B. Roerig Promotes Six to New Positions

Six staff members have been promoted to newly-created posts by J. B. Roerig and Co., pharmaceutical division of Chas. Pfizer & Co., Inc.

Bernard H. Smith has been named manager, marketing department. He was previously product manager.

Robert E. Roeker, formerly administrative assistant to the director of sales, was promoted to assistant manager, marketing department.

Louis J. Gill has been named government sales manager. He was formerly sales service manager.

Frances Himebaugh, previously headquarters' office manager, will assume additional duties as budget control officer.

Richard E. Arnold was appointed sales promotion and convention manager. Previously, he was associate director of conventions and associate editor of the company's internal publication.

Charles C. Rabe, formerly manager, special projects, has been named professional relations manager.

Pedro E. Penner Da Cunha (l.), vice consul, Brazilian Consulate, New York City, presents Latin American Design Association Award to Warren Burchfield, product group director, Surgical Dressings Division, Johnson & Johnson, in recognition of the company's repackaging program. Robert Esquenazi-Mayo (r.), U.S. representative of the Association, looks on. The repackaging program completed earlier this year, involved 26 different packages of 11 products.

Five New Appointments Made by Bauer & Black

Mr. Tierney

Mr. Tacy

Curt Tacy has been appointed by Bauer & Black to the newly-created position of assistant manager, professional sales. He is succeeded as hospital field sales manager by Tom Tierney.

Ralph Stanford has been named to fill Mr. Tierney's previous job as manager, hospital dressings sales. Mr. Stanford was formerly manager, hospital products development.

Also at Bauer & Black, Clint Dayton has been appointed district manager, Southwestern hospital district. The newly-created district will include Texas, Oklahoma, Kansas, and Missouri, with headquarters in Dallas, Tex. Mr. Dayton is succeeded as assistant manager, suture sales, by Lynn Stanfield.

Ciba Pharmaceutical Appoints Five Hospital Representatives

Ciba Pharmaceutical Products Inc. has appointed the following former professional service representatives to the new positions of hospital representatives:

A. Edward Berler, Brooklyn-Long Island, N.Y., area; P. George Brigandi, Manhattan area; Robert T. Wallace, Los Angeles area; Walter Sedgwick, Chicago area; and Stuart M. Schmucker, Buffalo, N.Y., area.

Also at Ciba, John M. Stewart has been appointed district man-

(Continued on page 152)

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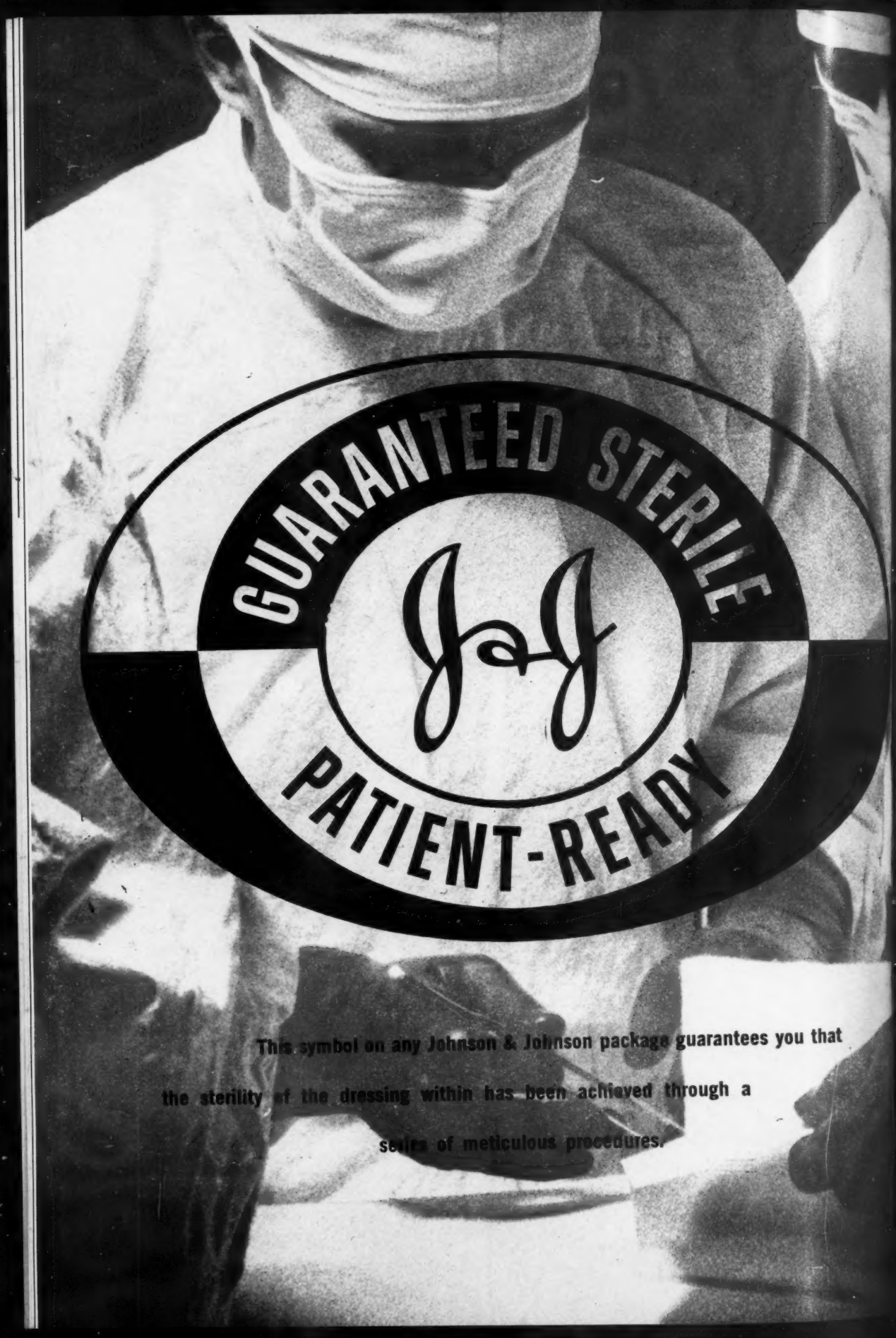
Cia. Cubaña de Oxigeno, Havana
AIRCO (All subsidiaries or divisions of Air Reduction Company, Incorporated)



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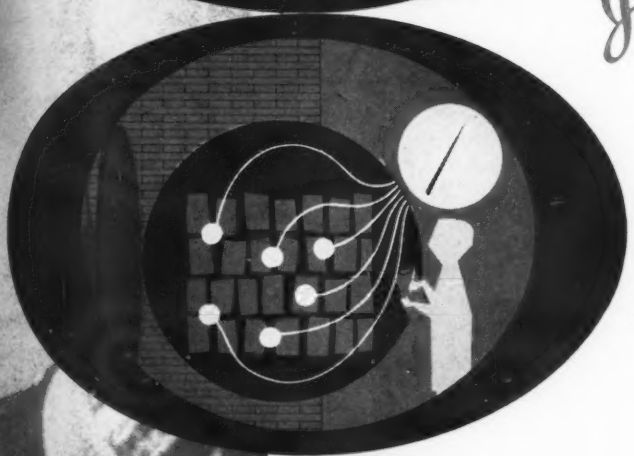

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A sterility test is performed on each sterilizing load. Absence of positive cultures verifies the sterility of the load.

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(*Continued from page 148*)

ager, Hartford, Conn. He is succeeded as Boston hospital-research associate by Joseph Peluso, previously professional service representative, Albany, N.Y.

News Briefs

Liquid Carbonic Division—of General Dynamics Corp., has purchased Industrial Air Products of the South, which includes two plants, in New Orleans, and Pescayoula, Miss. **Ralph Brown has** been appointed sales manager, New Orleans operation.

* * *

Charles L. K. Wright—has been named vice-president and general sales manager, Pelton & Crane Co. He previously held a similar post with Peter, Strong & Co., Inc.

* * *

E. Ned Schultz, M.D. — has been appointed associate director, medical department, Armour Pharmaceutical Co. Dr. Schultz was previously senior research fellow of the University of Southern California in Los Angeles County General Hospital.

* * *

Ernest R. Hillrich — has been appointed company representative for Canada, Zimmer Manufacturing Co. He was formerly hospital representative for Cyanamid of Canada Ltd.

* * *

Archibald L. Ross—44, vice-president in charge of sales, Wyeth International, Ltd., Inc., died December 15. He had been associated with Wyeth for more than six years. He had also served with Abbott Laboratories and Sterling-Winthrop International, in sales supervisory capacities, in Brazil, Mexico, and several Central American countries.

* * *

Ralph C. Najarian—44, advertising plans advisor, Schering Corp., died December 22. He had been with the company for 17 years. In 1948, he was appointed hospital supervisor, central division, and became district supervisor in 1950. Appointed assistant advertising manager in 1952, he was named advertising manager in 1955, and has been advertising plans advisor since June, 1958.

* * *

John J. Barabino—has been appointed a sales engineer, Food Machinery Division, Baker Perkins Inc. He was previously associated with Petersen Oven Co. His new territory will include New York and New Jersey.

* * *

Wesley M. Dixon, Jr.—has been named president, foreign subsidiary companies, G. D. Searle & Co., and assumes responsibility for Searle's international operations. He had been executive vice-president of the foreign subsidiaries.

* * *

A. James Crookes—has been appointed general manager, Jonesboro, Arks., plant, Colson Corp. He was previously director of production engineering.

* * *

Louis Greenberg — has been appointed assistant controller, Purdue Frederick Co. He was formerly market analyst for the Pharmaceutical Research Center, New York City.

* * *

Jerome S. Weiss—was elected to the board of directors, Cory Corp. He will also continue to serve as assistant treasurer of the company.

* * *

E. G. Streiff—has been appointed dry cleaning field sales manager, W. H. Nicholson and Co., with his headquarters in Wilkes-Barre, Pa. He was previously sales manager, Olson Filtration Engineers.

* * *

Foster W. Lamb—has been named general sales manager, Chicago Hardware Foundry Co. He has had previous general sales management experience with Automatic Transportation Co., division of Yale and Towne Mfg. Co., Templeton Kenly & Co., and the Colorado Fuel and Iron Corp.

* * *

John T. Kimbel — has been appointed sales manager, Ethicon, Inc. He was previously field sales coordinator for all Fenwal Laboratories products.

* * *

Don C. Edmonson — has been appointed institutional products manager, Diamond Crystal Salt Co. He joined the company a year ago as manager, sales training, and succeeds the late **Robert C. Williams** in his new position.

* * *

Garland W. Smith—has been appointed Virginia and North Carolina representative, Arthur S. LaPine and Co. His new office is in Richmond. He was previously with Philip Morris, Inc.

* * *

James B. Lesh, Ph.D.—has been appointed technical director, Armour Pharmaceutical Co. He will continue as director of research and development in addition to his new duties.

* * *

Carter-Hoffmann Corp.—has succeeded Blessing-Hoffmann Corp., as manufacturer of Carter wheeled equipment for food service. In addition, the company plans new sales and manufacturing expansion.

* * *

J. A. Gibernau—has been appointed director, Armour Pharmaceutical International, succeeding **S. B. Bradshaw** who has become special assistant to the president. Mr. Gibernau was formerly head, export department, Ames Co., Inc.

Marketing and sales promotion executives of Armour Pharmaceutical Co. are moving their headquarters to the Prudential Building, Chicago, from Kankakee, Ill. The move was designed to place these executives in a more central location.

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The AMERICAN *ten eighty five* Major Surgical Operating Table

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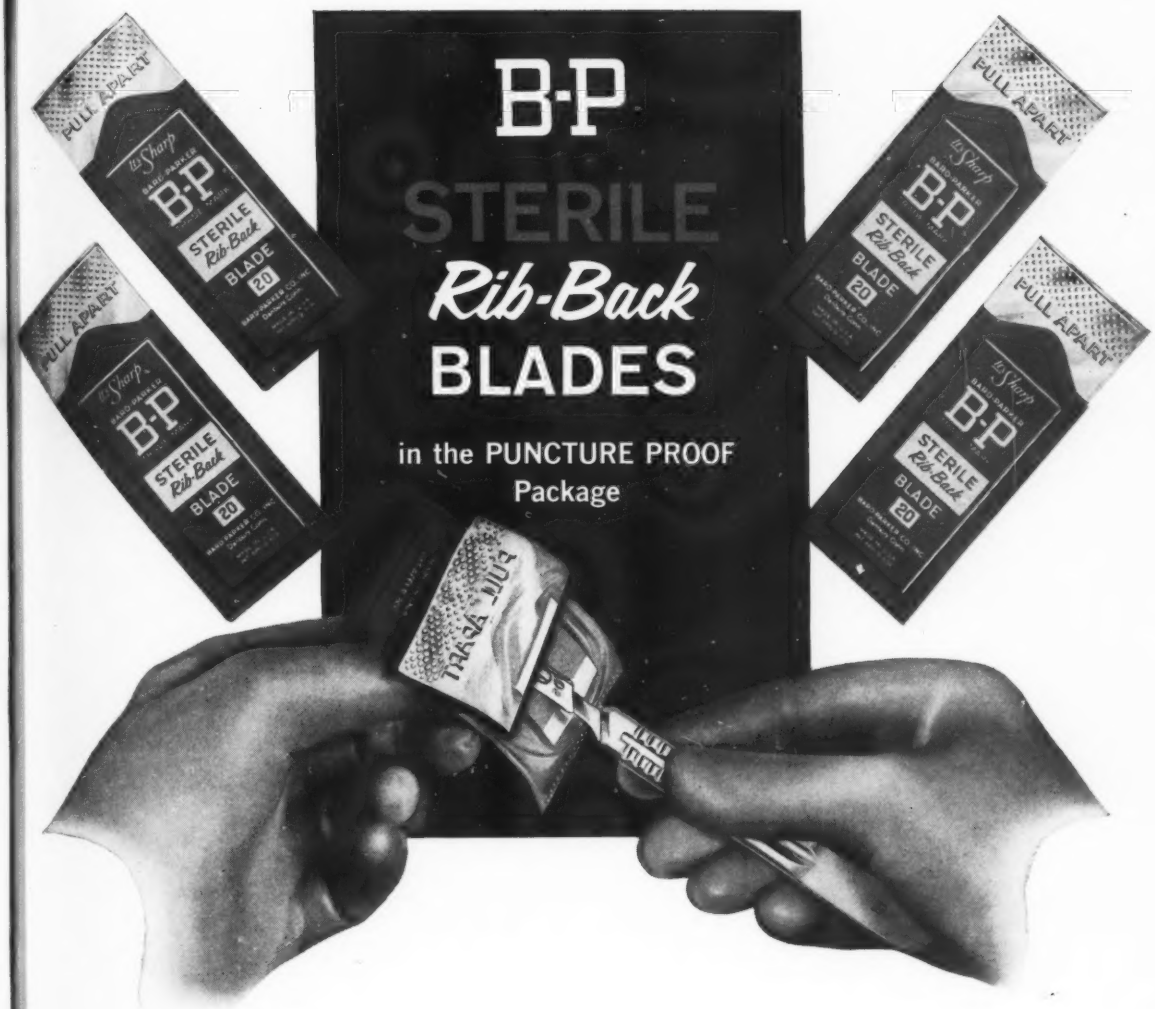

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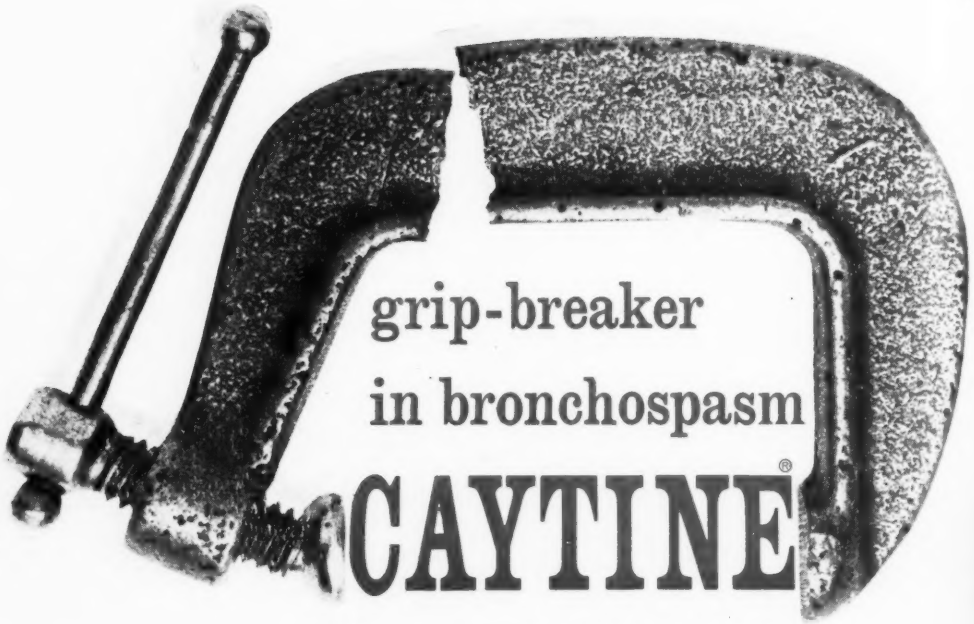

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(1) Leslie, A., and Simmons, D. H.: Am. J. M. Sc. *234*:321, 1957. (2) Settel, E.: Am. Pract. & Digest Treat. *8*:1249, 1957.

For additional information request Brochure No. NDA 18, CAYTINE, Lakeside Laboratories, Inc., Milwaukee 1, Wisconsin.

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